Service Manual

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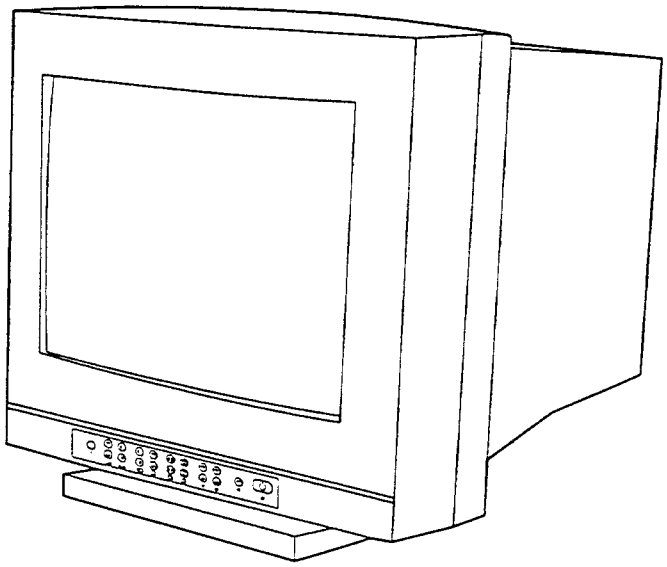
Chassis 447T

447T = 447T ✓

17" Colour Monitor–TV



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Base Board.....	SMA170
RGB Board Assy.....	SMH133
Picture Tube.....	NM1005
Firmware.....	1.05

When re–ordering manuals, please quote the model name and part number.

ZB1555
12.95

Service

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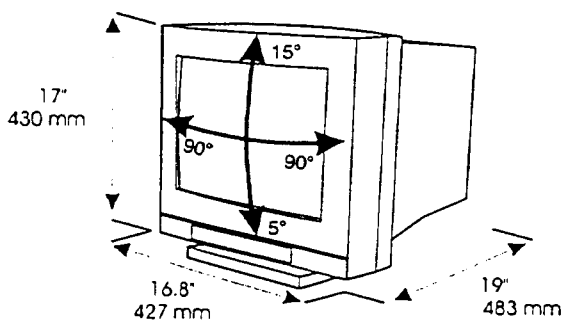
1. Product Overview

447T is a 17 inch monitor with sound reproducing feature. The maximum resolution of 1024 x 768 makes the monitor suitable for PC applications using graphical user interfaces. The monitor has an own power supply with input voltage requirements from 90V to 264V.

1.1. Technical Specifications

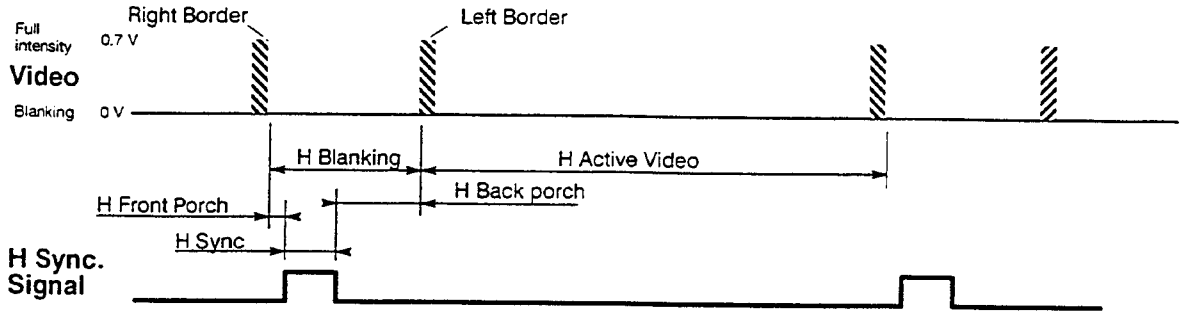
Cathode Ray Tube	17" in diagonal, 90° deflection angle Dark, antiglare, antistatic coating Short persistence (P22) Dot pitch 0.28 mm
Picture Size	300 mm x 225 mm with specified geometric distortion
Maximum Picture Size	321 mm x 236.5 mm
Power Input Requirements	Voltage 90–120/190–264 V, 60/50 Hz Autosense Current 2.0 A/110 V, 1.0 A/240 V Inrush current max. 30 A
Power Dissipation	< 150 W Normal Operation ~ 70 W Stand–by typical < 30 W Suspend < 8 W Auto power off
Memory Locations	14 for factory preset timings (6 in use, 8 free) 18 for user adjusted timings
Audio Input R/L	RCA
Audio Output Power	2 x 0.5 W, when input signal is 0.7 VRMS at AUDIO IN connector
Headphones	ø 3.5 mm
Geometric Distortion	Within 3 mm window in both vertical and horizontal dimensions
Luminance	Min. 88 cdm^{-2} at center, with full white field
Video Input	Input Signal: RGB, analog, positive, max 0.7 V/75 Ω Horizontal addressability: 1024 dots maximum Vertical addressability: 768 dots maximum
Synchronization Range	Horizontal: 31 kHz to 64 kHz automatic Vertical: 48 Hz to 100 Hz automatic
Synchronization Signal	Separate TTL, positive/negative Composite TTL, positive/negative
Max. Dot Frequency Capability	≥ 90 MHz
Temperature	Operating: +10°C to +35°C Packed: –20°C to +60°C
Humidity	Operating: 15% to 85 % Packed: 5% to 95 %
Weight	20 kg net 23 kg gross

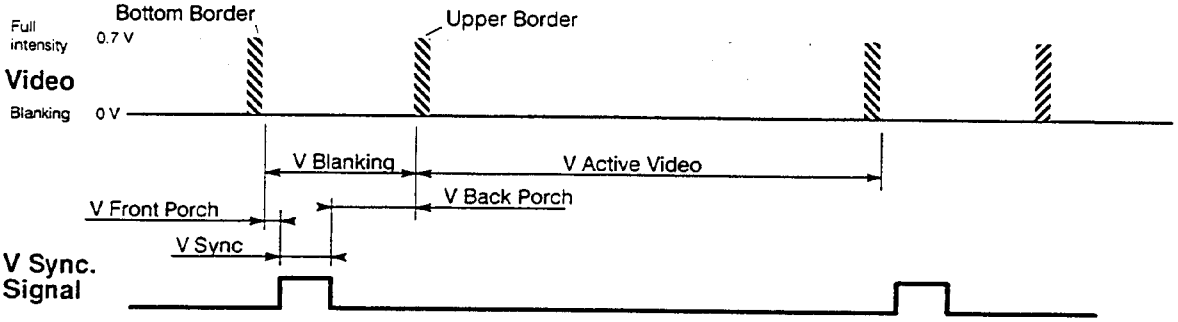
Size, Tilt and Swivel .....



Specifications are subject to change without notice.

1.2. Preset Display Modes





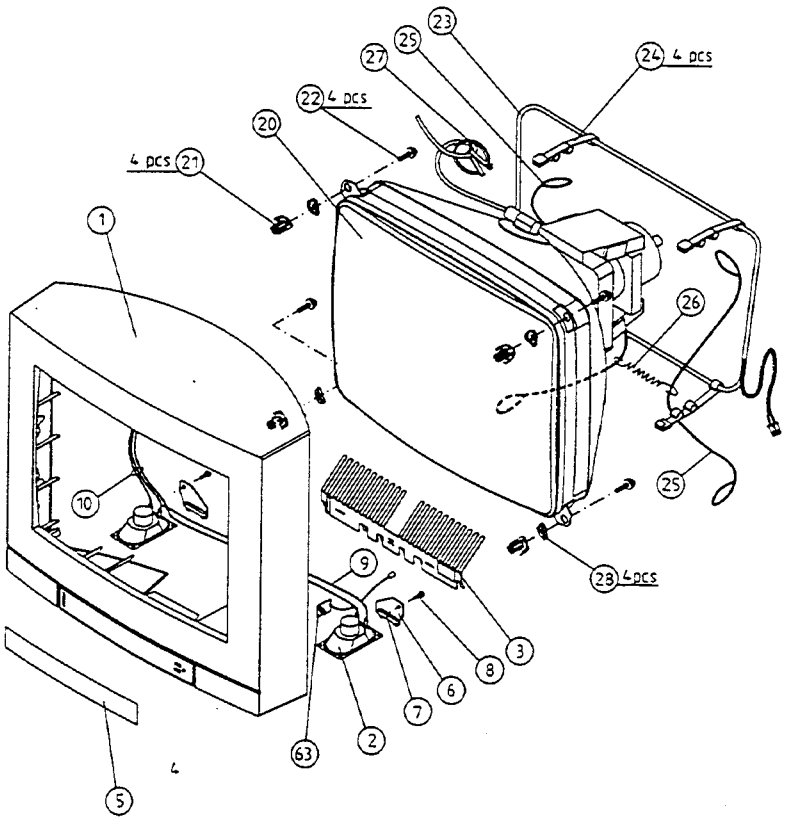
Display Mode no	1.	2.	3.	4.	5.	6.
Display Mode Name	NCE506	NCE300	NCE402	VGA3-75	XGA-75	XGA-72
	HSYNC 60.023kHz VSYNC 75.0Hz (+/+) 1024x768	HSYNC 31.472kHz VSYNC 59.9Hz (-/-) 640x480 (ASTRO 3)	HSYNC 48.077Hz VSYNC 72.2Hz (+/+) 800x600	HSYNC 39.40kHz VSYNC 75.1Hz (-/-) 640x480	HSYNC 61.1kHz VSYNC 75.8Hz (+/+) 1024x768	HSYNC 58.139kHz VSYNC 72.0Hz (+/+) 1024x768
H Frequency/kHz	60.023	31.472	48.077	39.409	61.101	58.140
H Period/µs	16.660	31.774	20.800	25.375	16.366	17.200
H Active Video/µs	13.003	25.420	16.000	20.300	11.903	12.800
H Resolution	1024	640	800	640	1024	1024
H Sync/µs	1.22	3.81	2.40	3.04	3.72	3.60
H Back Porch/µs	2.23	1.91	1.28	1.52	0.66	0.60
V Period/Lines	800	525	666	525	806	807
V Resolution	768	480	600	480	768	768
V Sync/Lines	3	2	6	2	8	8
V Back Porch/Lines	28	33	23	33	30	31
H Sync Polarity	+	-	+	-	+	+
V Sync Polarity	+	-	+	-	+	+
	T	T	T	T	T	T
	-	-	-	-	-	+
H Front Porch/µs	0.20	0.64	1.12	0.51	0.08	0.20
V Front Porch/Lines	1	10	37	10	0	0
Dot Frequency/MHz	78.750	25.177	50.000	31.528	86.030	80.000
Interlacing	no	no	no	no	no	no

Item	Part number	Description	PG	Notes
	QG1001	Remote control for 447T	26	
Cables and Documents				
	QM0028	Power cord 3 x 1,0 mm^2	18	
	QM0153	Antenna cable assy L=360 mm	15	
	ZF5347	User's guide 447T	99	
	ZK0001	Nokia monitor setup WIN95 3,5 disk	99	
Packing materials				
	ZA2510	Packing box	99	
	ZA1863	Packing support, lower	99	
	ZA1864	Packing support, upper	99	
Modules				
	SMZ037	S-compensation module	25	
	SMZ039	Switching module	16	
	ETX4095	VT decoder 58544095 ACACIA	32	
	ELL2095	If board 58252095 ACACIA	21	051L
	ELL2096	if board 58252096 ACACIA	23	051D

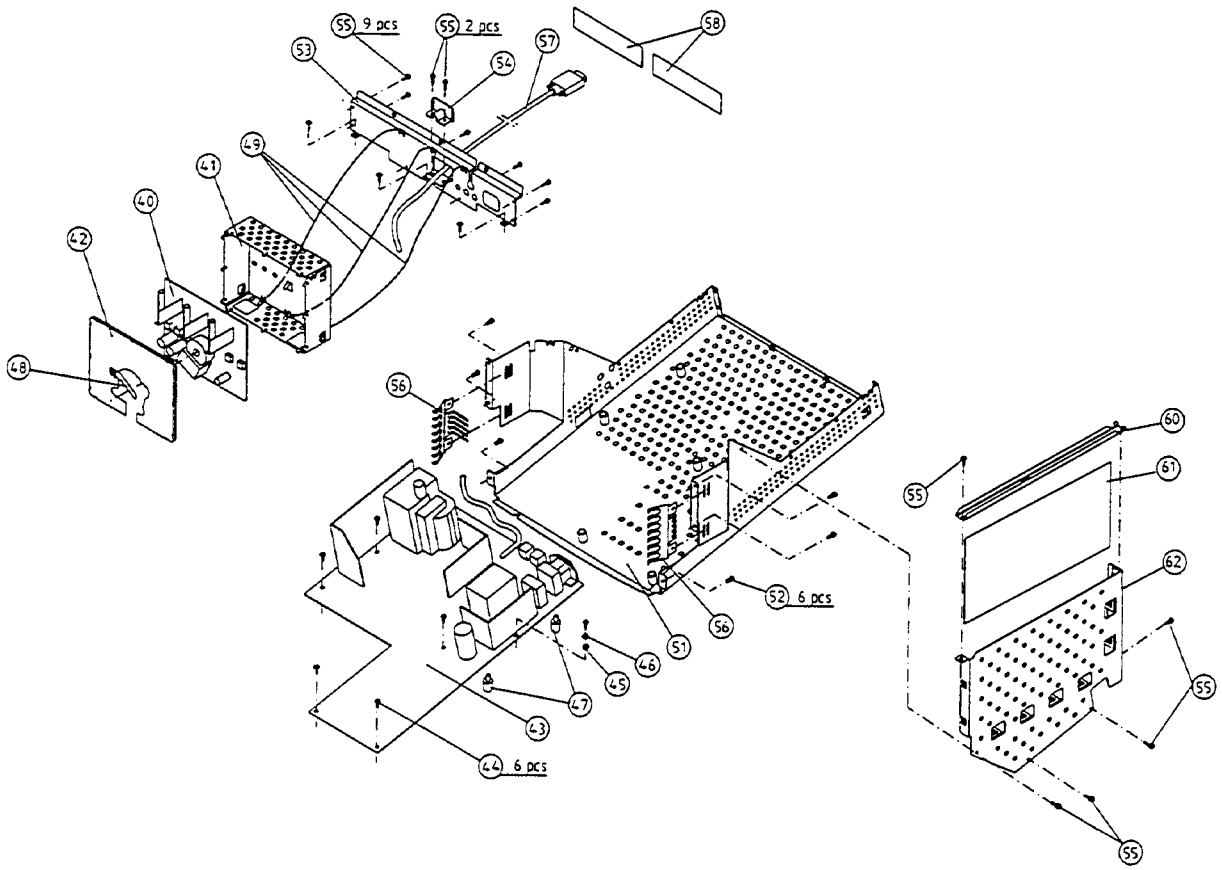
Spare Parts

Production P/N	Marketing Name	Description	Emis-sion	Colour
447T051B	417TVB	17 Nokia Monitor–TV	TCO	Light Gray
447T051D	417TVD	17 Nokia Monitor–TV	TCO	Light Gray
447T051L	417TVL	17 Nokia Monitor–TV	TCO	Light Gray

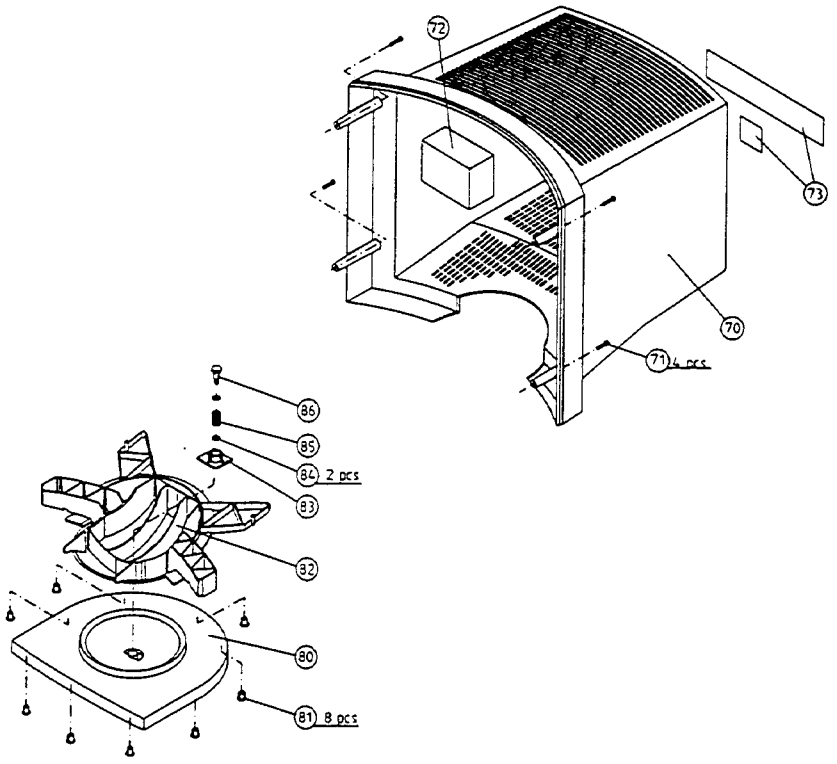
Item	Part number	Description	PG	Notes
1	UM7151C	Bezel with TCO–wire 417TV	32	
2	QP0226	Loudspeaker	19	
3	UC6763	Grounding spring. lower	09	
4	UG0785	Cover button	03	
5	QG0373	Membrane switch	22	
6	UC6786	Loudspeaker fastener	09	
8	WC0346	Pt–screw KB35x12	01	
9	SE2582	Wire, loudspeaker	07	
10	SE2583	Wire bundle, loudspeaker	11	
20	NM1005	Picture tube M41EER323X140/2F05	99	
21	UG0781	Sliding spacer	05	
22	WC0444	Pt–screw K50x28	01	
23	FD0173	Degaussing coil	22	
24	UG0786	Coil holder	02	
25	SE2581	Grounding braid	10	
26	UC3016	Picture tube grounding spring	04	
27	UJ0220	EHT insulator	05	
	ZZ2421	Warning label 27000 V	03	



Item	Part number	Description	PG	Notes
40	SMH133	CRT module	43	
41	UC6803	Shield for socketboard	10	
42	UC6804	Cover	08	
43	SMA170	Main board	60	
44	WA0749	Screw M4x8	01	
45	UC6781	Washer	04	
46	WL0217	Washer 4,3 ST	01	
47	UG0778	Support stud	01	
49	SE2580	Grounding wire	06	
51	UC6767	Bottom plate	23	
52	WC0353	Pt–screw KB40x10	01	
53	UC6766	Connector panel	09	
54	UC6834	Strain relief	04	
55	WC0036	Hex pt–screw	01	
56	UC6709	Grounding spring, side	05	
57	QM0274	Signal cable VGA–30 Scgrey	24	
58	ZZ2498	Connector label set Aud	06	
58	ZZ2735	Connector label set 447T	11	
60	UC6843	Support top rod	17	
61	LS0006	TV modul PAL BG 5.5MHz FM Mono	54	051B
61	LS0007	TV modul PAL/SECAM BG/I/L	56	051L
61	LS0008	TV modul PAL/SECAM BG/DK	55	051D
62	UC6841	Support plate	19	



Item	Part number	Description	PG	Notes
70	UD0603	Back cover Light Gray	33	
71	WC0354	Pt-screw KB40x20	01	
72	UA1307	Cushion spport	06	
74	ZZ2728	Type label Nokia 417TV	10	
80	US0010	Stand Light Gray	19	
81	UL0702	Foot pad	02	
82	US0023	Stand ball Light Gray	16	
83	UG0775	Puffer plate	04	
84	WL0163	Washer	02	
85	UC3144	Spring	05	
86	WA0736	Screw	06	
	UDX042	Stand assy	26	
	WJ0170	Nut for QM0153 M12 P1,0		
	WL0174	Washer13/15,8X0,4 for QM0153		
	UL0709	Slide barrier	10	



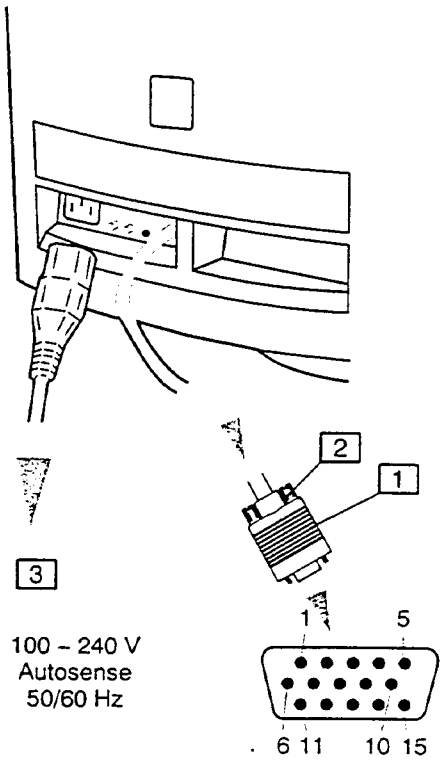
1.3. Monitor Connection

Make sure that the monitor is disconnected from mains and the power switches of the computer and all attached devices are turned off before connecting the monitor.

[1] Connect the signal cable to the computer.

[2] Tighten the screws.

[3] Connect the power cord first to the monitor and then to a grounded power outlet. Turn on the power switches for both the computer and the monitor. The picture will appear within about 20 seconds. Adjust the picture with the relevant adjust buttons to obtain optimum picture quality.



Pin Configuration

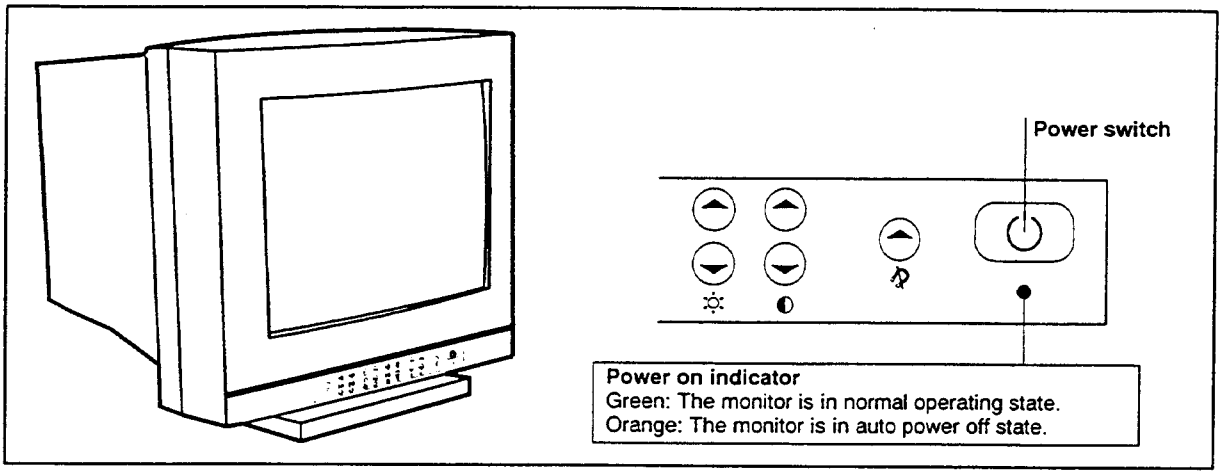
Pin		Signal	
1	<-	RV	Red
2	<-	GV	Green
3	<-	BV	Blue
4	->	ID2	Monitor Identification (LG)
5	<-	ST	Not used
6	<-	RG	Ground (red)
7	<-	GG	Ground (green)
8	<-	BG	Ground (blue)
9			Not used
10		LG	Ground (logic)
11	->	ID0	Monitor Identification (LG)
12	->	ID1	Monitor Identification (not connected)
13	<-	HS	Horizontal sync.
14	<-	VS	Vertical sync.
15			Not used

1.4. User Controls

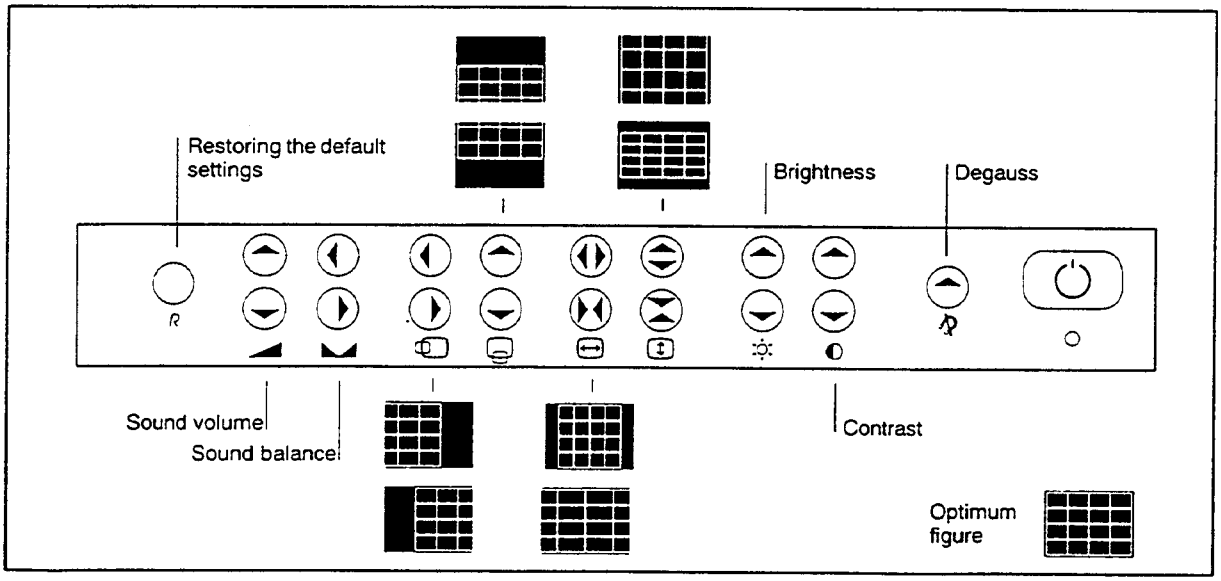
1.4.1. Power Switch

Warning

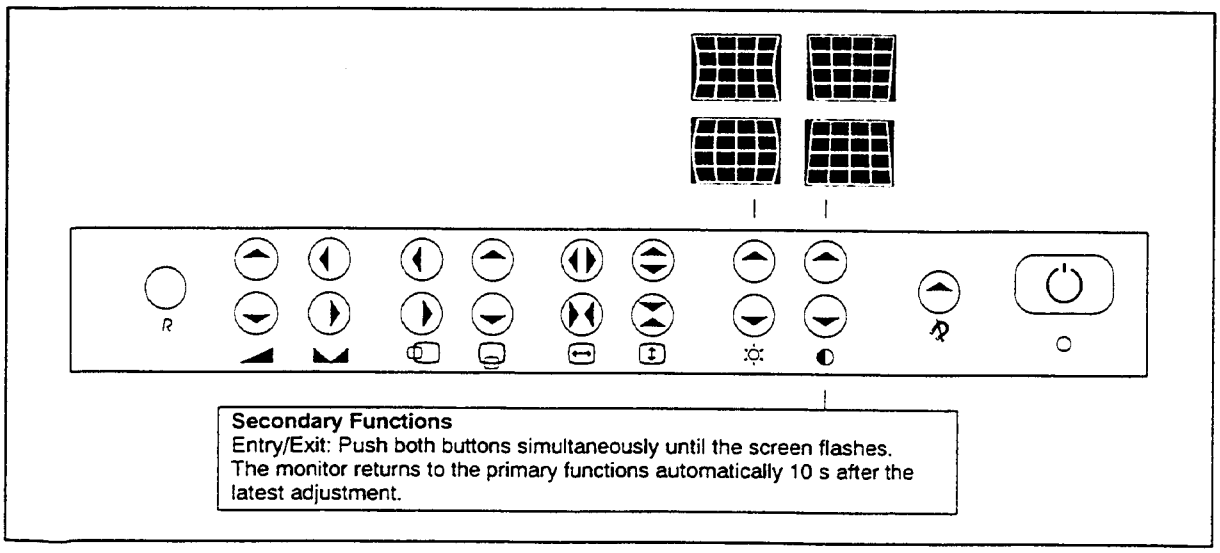
The Power Switch does not disconnect the monitor from mains. In order to make it completely powerless, unplug the monitor from power outlet.


Power switch
Power on indicator
Green: The monitor is in normal operating state.
Orange: The monitor is in auto power off state.

1.4.2. Primary Functions



1.4.3. Secondary Functions


Secondary Functions
Entry/Exit: Push both buttons simultaneously until the screen flashes.
The monitor returns to the primary functions automatically 10 s after the latest adjustment.

2. Site Preparation

2.1. Location

This Monitor is designed for normal office conditions. It is equipped with own power supply. It is not to be serviced or repaired on site.

2.2. Troubleshooting

Local service facilities should perform simple maintenance such as trimming. More advanced maintenance and repair that requires replacement of components which in turn requires testing and re-trimming should be carried out in a central workshop.

Symptom		Measures
Picture screen is blank	The indicator on the front panel is not illuminated	Check that the power cord is correctly connected to the monitor and to the power outlet. If the monitor is powered through the computer, check that the computer is switched on. Verify that current is connected to the power outlet.
		Unplug the monitor from power outlet for about one minute.
	The indicator on the front panel is illuminated	The monitor might be in power saving position. Push one of the buttons or move the mouse.
		Check that the keyboard's connection to the computer is OK.
		Adjust contrast and brightness to the maximum.
		Check that the signal cable connector is connected. If the connector is loose, tighten the connector screws.
		Unplug the monitor from power outlet for about one minute.
		Switch off the monitor and the computer. Remove the signal cable from the computer. Switch on the monitor using the power switch. If a gray frame (background) appears on the screen, it is evident that the monitor functions correctly and the problem is caused by an error in other parts of the system.
		Check the signal cable's connection pins. If the pins are slightly distorted, use nose pliers to straighten them.
		The computer may use a timing values which are out of the synchronization range of the monitor.
Picture has colour defects		Demagnetize the monitor
		If colour defect is repeated without the monitor having been moved, it is possible that the monitor is influenced by a strong magnetic interference field (near to a high power cable, for example). Try to find a better location for the monitor or the interference source. Note that another monitor placed too near (less than 30 cm.) may also generate interference in the picture.
Picture is stable but distorted		Your computer may use a timing for which the corresponding picture characteristic adjustments have not been set at the factory. Adjust the picture characteristics
Picture is unstable		Make sure your computer and video card are properly configured for your monitor.
		Check the proximity of other electrical devices that generate magnetic fields, such as speakers, other monitors, electric fans and fluorescent light fixtures.
Picture is black and white		Check that the signal cable's connector is completely inserted. Switch off the computer and restart.

2.3. Checking the Operation of PowerSaver

The proper operation of the function requires a computer with VESA DPMS power management capabilities. Note that the power saving feature must be activated in the computer when checking the operation.

State	Colour of the power–on indicator	5V	7V	12V	Video
Normal Operation	Green	Yes	Yes	Yes	Yes
Stand–by	Green	Yes	Yes	Yes	No
Suspend	Green	Yes	Yes	No	No
Power Off	Orange	Yes	No	No	No

DPMS (Display Power Management Signaling) is a trade mark of Video Electronics Standard Association (VESA)

3. Controlling the Memory for Picture Adjustments

The picture adjustment values are stored in non-volatile memory. The memory has separated areas for User Adjustments and for Factory Adjustments.

3.1. Memory for User Adjustments

3.1.1. Adjustment

[1] The memory can be updated with User Controls in User Mode.
If there are values available in the memory for user adjustments, corresponding to the present timing signals, they are always used.

– If the memory location for user adjustments is empty, the picture adjustment values are read from memory for factory adjustments. Factory adjustments, corresponding to the current timings, are transferred to user memory if any picture property is adjusted.

3.1.2. Resetting the User Memory

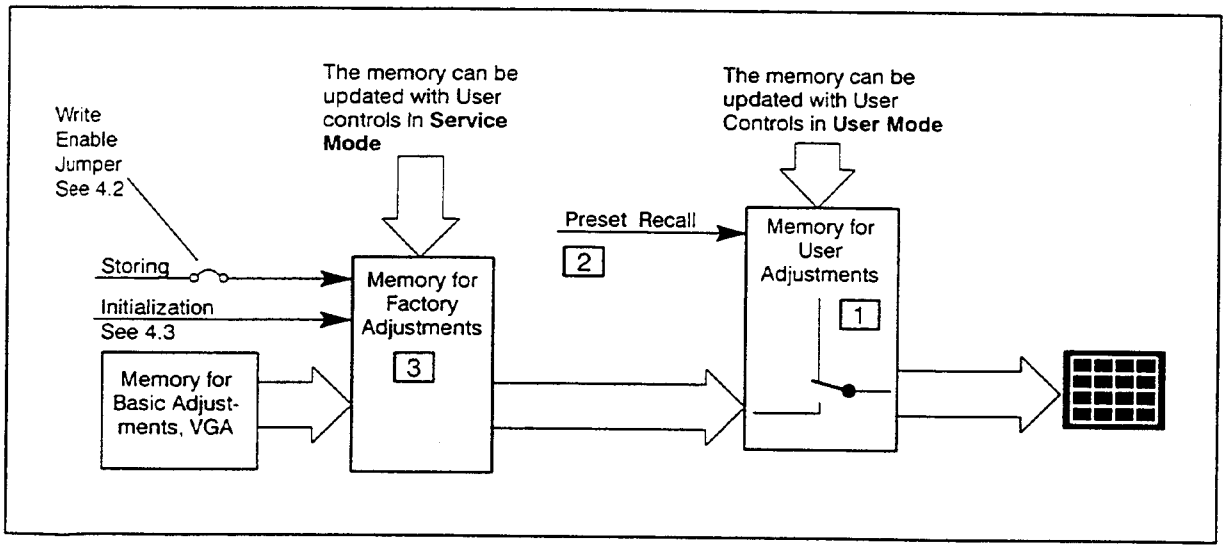
[2] User memory can be emptied from user made settings by pushing R-button. Resetting affects only the timing which is currently active. The reset function is inhibited if no corresponding factory preset timing exists.

3.2. Memory for Factory Adjustments

All measures to the factory adjustments require that the write enable jumper must be connected.

3.2.1. Adjustment

[3] Factory adjustments can be updated with user controls in service mode. If there is no location in factory adjustment memory for timings currently in use, the adjustment affects the memory for user adjustments.


The memory can be updated with User controls in Service Mode
The memory can be updated with User Controls in User Mode
Write Enable Jumper See 4.2
Storing
Initialization See 4.3
Memory for Basic Adjustments, VGA
Memory for Factory Adjustments
3
Preset Recall
2
Memory for User Adjustments
1

3.3. Grouping of the Service Mode Adjustments

There are two groups of software adjustments in service mode:
- 1st. geometry adjustment set
- 2nd geometry adjustment set

Grey scale adjustments are performed by trimmer potentiometers on SMH-board.

The following table shows how the adjustments act in relation to the display modes.

Adjustment	Common for all Display modes	Separate for each Display mode	Available in User Mode	Available in Service Mode (Group Nr)	Hardware adjustment on SMH-board
Contrast	X		X (Common memory for both modes)		
Brightness	X		X (Common memory for both modes)		
Horizontal centring		X	X	1	
Vertical centring		X	X	1	
Height		X	X	1	
Width		X	X	1	
East/west		X	X	1	
Trapezium		X	X	1	
Orthogonality		X		2	
East/west balance		X		2	
Horizontal raster centring	X			2	
G2	X			2	
Max/Min contrast	X			2	
R Black level	X				RT110
G Black level	X				RT210
B Black level	X				RT310
G Gain	X				RT201
B Gain	X				RT301

Common adjustments need to be adjusted only once. Separate adjustment must be performed for every display mode to be stored.

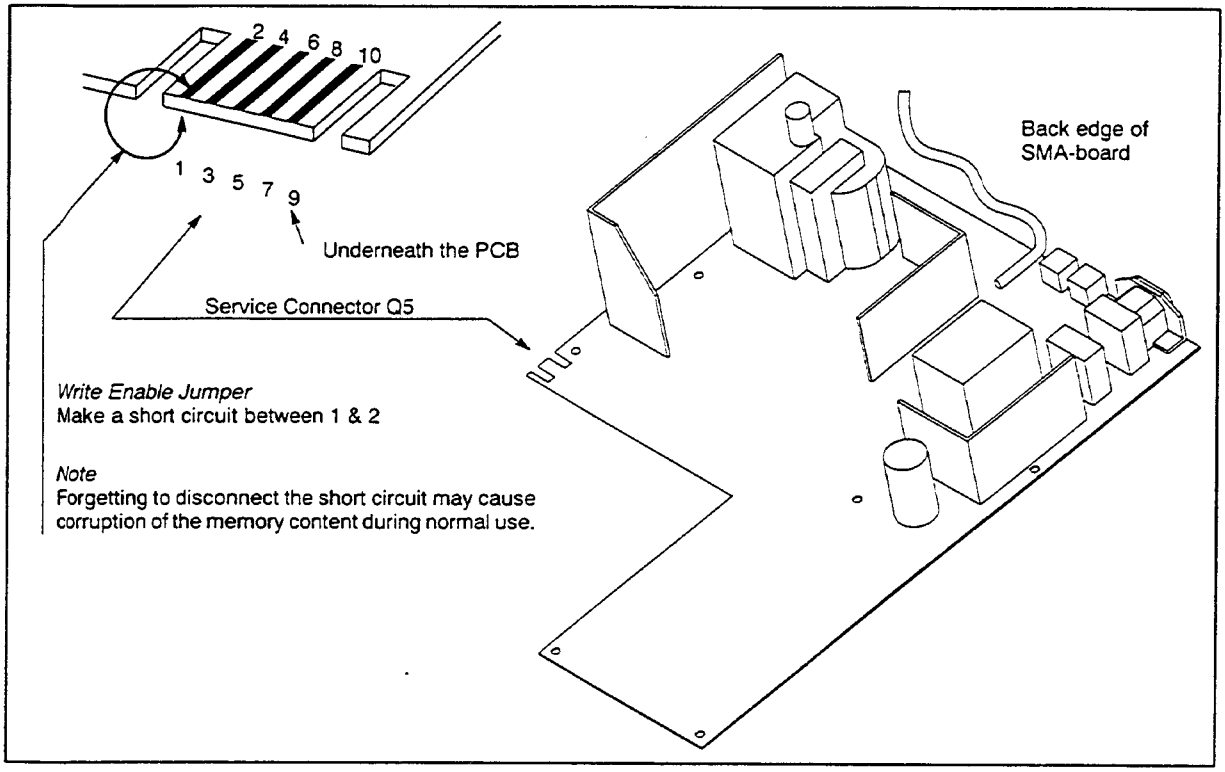
4. Service Mode

4.1. General

Service Mode is needed for updating of the factory adjustments for display modes listed in the chapter Preset Display Modes. If there is no location in factory adjustment memory for display mode currently in use, the adjustment affects the memory for user adjustments.

4.2. Write Enable Jumper

Memorizing in Service Mode requires that service connector pins 1 and 2 must be short circuited. Make the short-circuit before you start the service mode and disconnect it after you have completed the whole adjustment procedure.

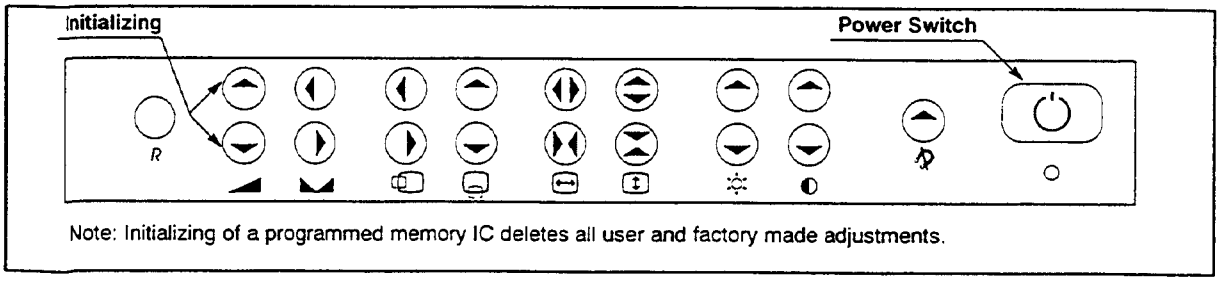

2 4 6 8 10
1 3 5 7 9
Underneath the PCB
Service Connector Q5
Back edge of SMA-board
Write Enable Jumper
Make a short circuit between 1 & 2
Note
Forgetting to disconnect the short circuit may cause corruption of the memory content during normal use.

4.3. Initializing of the Replacement Memory (IC21 on SMA board)

If the memory for factory adjustments is replaced, the new IC must be initialized. During initializing all memory locations are written with approximate values. They must be updated in service mode as explained in the chapter Adjustment Procedure.

Before initializing, connect the write enable jumper.

1) Switch the monitor off with power switch.
2) While keeping **both** initializing buttons down, switch on the monitor with power switch.
3) Release the initializing buttons after a few seconds.
4) Wait 20 seconds.



Note: Initializing of a programmed memory IC deletes all user and factory made adjustments.

After initializing the monitor stays in normal user mode. Switch off the monitor and start service mode and adjust the picture properties for required display modes.

4.4. Access to the Service Mode

The groups have common control buttons. Which set is in force is fixed at the moment the service mode is activated. Brightness and contrast control buttons have always the original meaning.

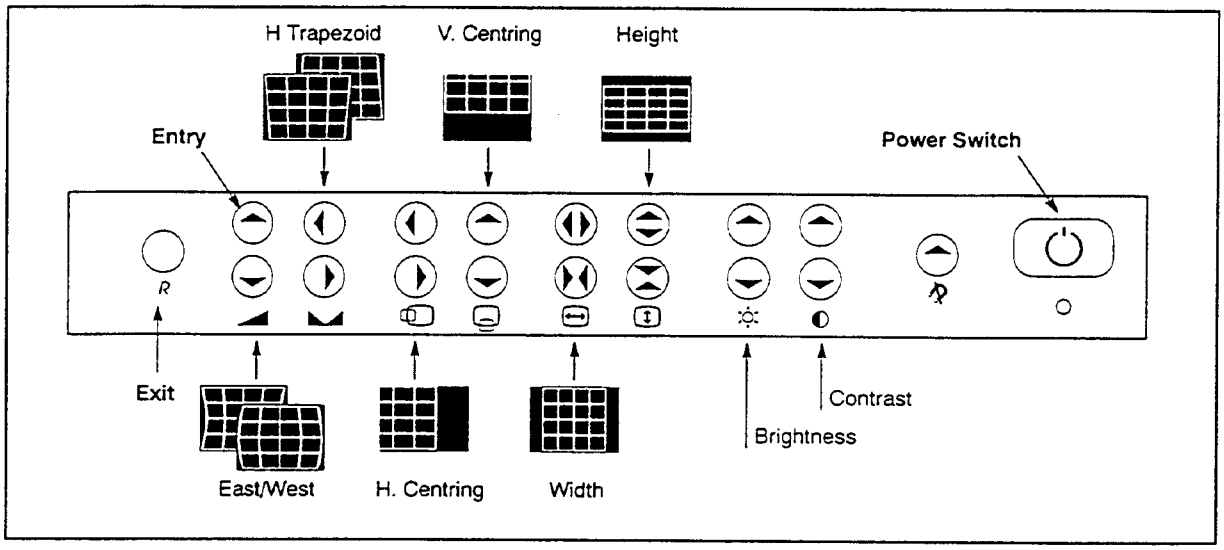
Entry to each group

- While keeping **Entry** button down,
- switch on the monitor with power switch.
- Release entry button

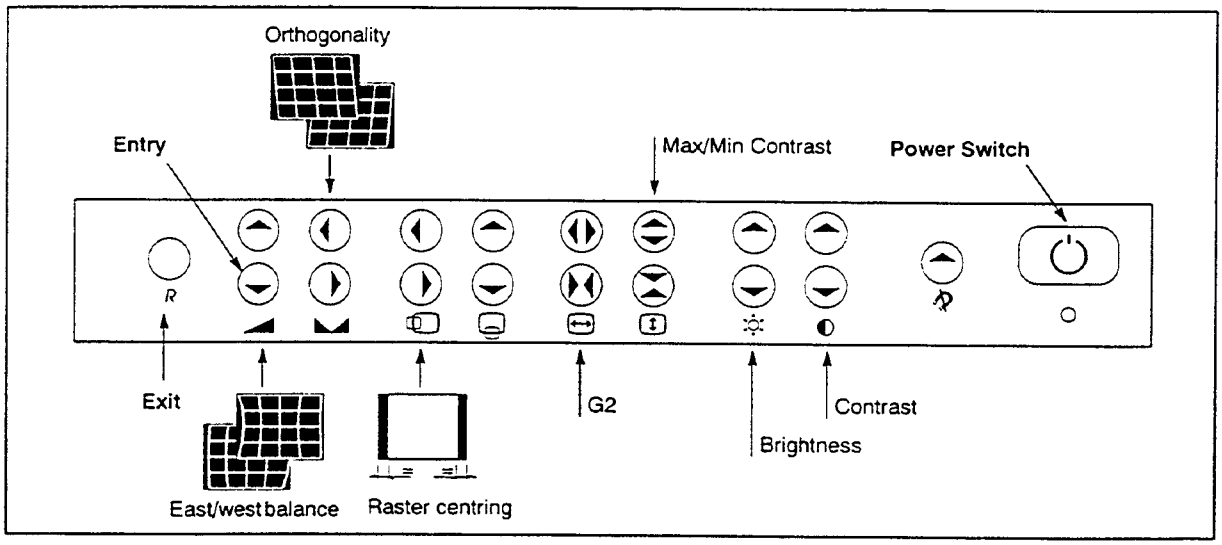
Exit to the User Mode

- Push **Exit** button

4.4.1. Group 1



4.4.2. Group 2



4.5. Storing and Returning to the User Mode

Common adjustments are stored at the moment of return to the user mode. Separate adjustments are stored automatically after each adjustment.

When you exit from Service Mode by pushing the Exit button, the monitor turns to normal user mode. If you want to leave the service mode without memorizing common adjustments, switch off the monitor in service mode.

Display modes can be changed without leaving service mode when making separate adjustments.

5. Workshop Maintenance

5.1. Important Safety Notice

The components, which are important for safety, are marked with special mark ⚠ on the circuit diagram. It is essential that these critical parts should be replaced with manufacture's specified parts to prevent X–radiation, shock, fire or other hazards.

For your own safety, use always safety isolating transformer when repairing the monitor.

5.1.1. Discharging the CRT

High voltage circuitry includes bleeder resistor which normally discharges the tube in about 5 seconds after the power is switched off. If you – for safety reasons – want to be sure about the discharging, do as follows:

Wear safety goggles. A cracked CRT may implode when discharged.
The signal cable must be disconnected from the computer.

To discharge the CRT, a flat–head screwdriver with grounding cable is required.

- Disconnect the power cable.
- Connect the metal chassis of the monitor to reliable earth.
- Connect the grounding wire to the screwdriver.
- Connect the other end of the grounding wire to the chassis (earth).
- Insert the screwdriver under the rubber cap of the EHT connector to discharge the tube.
- Disconnect the earth wires.

5.2. ESD–Sensitive Parts

To prevent damage, when working with electrostatic discharge (ESD) sensitive parts, observe the following instructions:

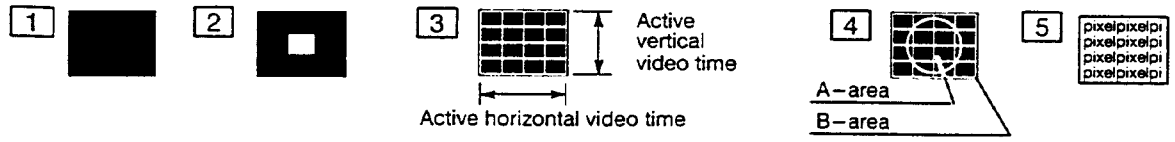
- Keep the ESD–sensitive part in its original shipping container until you are ready to install the part into the component card.
- Just before touching the ESD–sensitive part, discharge to the monitor any static electricity in your body; do this by touching the metal frame or cover of the machine. If possible, keep one hand on the frame when inserting or removing a logic card, for example.
- Hold the ESD–sensitive part by its edge; do not touch its pins.

5.3. Test Equipment

The following test equipment are required to adjustment procedure:

- safety isolating transformer
- Digital multimeter: Fluke 87 or equivalent true RMS multimeter
- High voltage probe: e.g. Fluke 80–40k
- Signal generator: VTG220 + PC or programmable video generator
- Color analyzer: e.g. Minolta TV Color Analyzer CA100
- Convergence Gauge (CM7AR or equivalent)
- Oscilloscope 40–100 MHz band width
- Hi–Pot tester (Flash tester with insulation measurement / Leakage current / Break down voltage)
- ESD protection necessary

5.4. Test Patterns



1 Black Picture
- Signal level = 0 V at each RGB input

2 Highlight grey scale tracking
- Signal level = 700 mV in the window at each RGB input

3 Crosshatch Picture
- Squares e.g. 20 mm x 20 mm
- Outmost lines correspond the active vertical/horizontal video time

4 Convergence test pattern

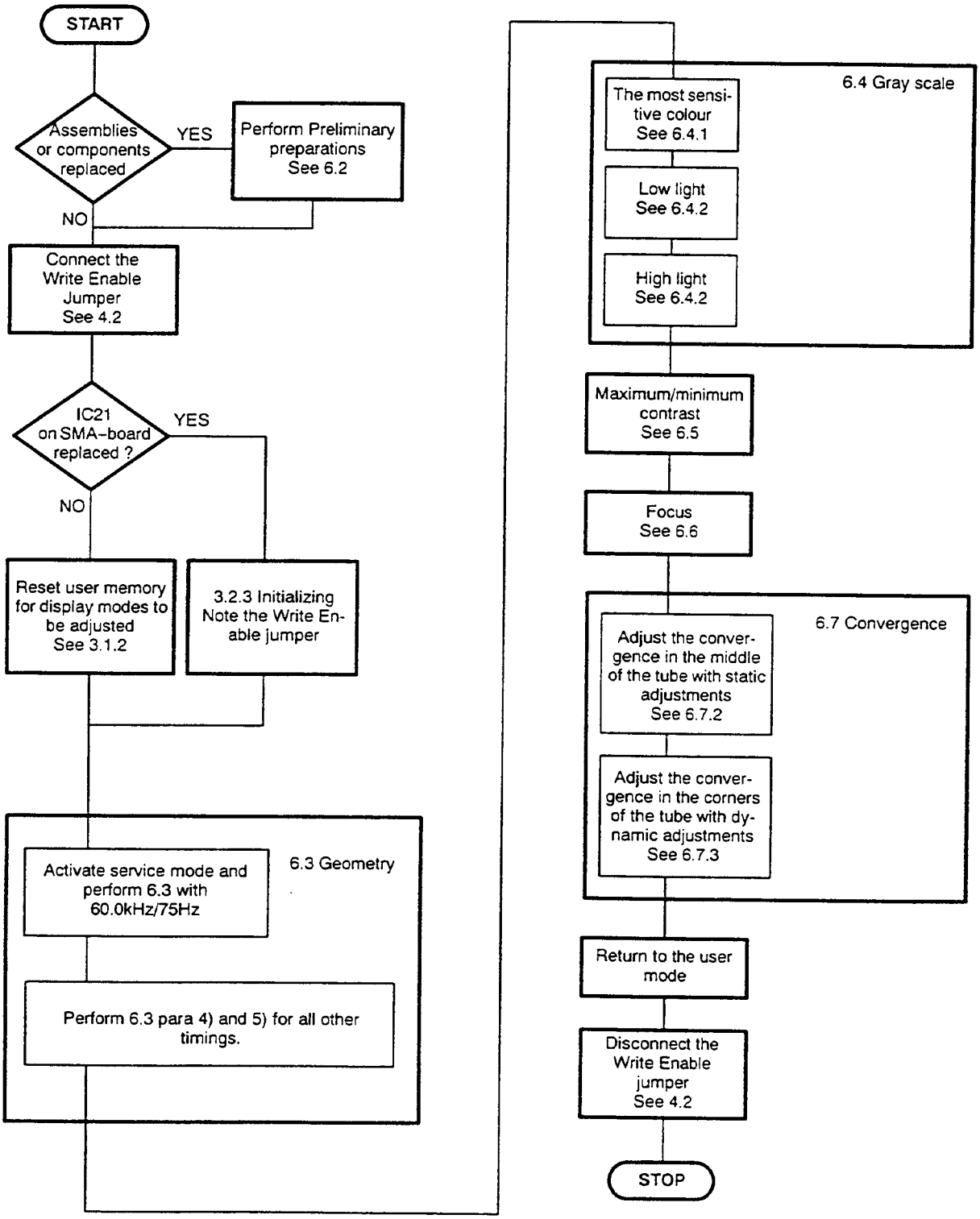
5 Focus test pattern

6. Adjustment Procedure

The following procedure must be carried out in case of large service operations e.g. when a circuit board or nonvolatile memory ICA21 has been replaced by a new one.

The order of adjustments explained here has been found to produce the desired result with the minimum of effort. Adjustments can also be made in another order or completely separately.

6.1. Adjustment Flow Diagram


START
Assemblies or components replaced
YES
Perform Preliminary preparations See 6.2
NO
Connect the Write Enable Jumper See 4.2
IC21 on SMA-board replaced ?
YES
NO
Reset user memory for display modes to be adjusted See 3.1.2
3.2.3 Initializing Note the Write Enable jumper
Activate service mode and perform 6.3 with 60.0kHz/75Hz
6.3 Geometry
Perform 6.3 para 4) and 5) for all other timings.
6.4 Gray scale
The most sensitive colour See 6.4.1
Low light See 6.4.2
High light See 6.4.2
Maximum/minimum contrast See 6.5
Focus See 6.6
6.7 Convergence
Adjust the convergence in the middle of the tube with static adjustments See 6.7.2
Adjust the convergence in the corners of the tube with dynamic adjustments See 6.7.3
Return to the user mode
Disconnect the Write Enable jumper See 4.2
STOP

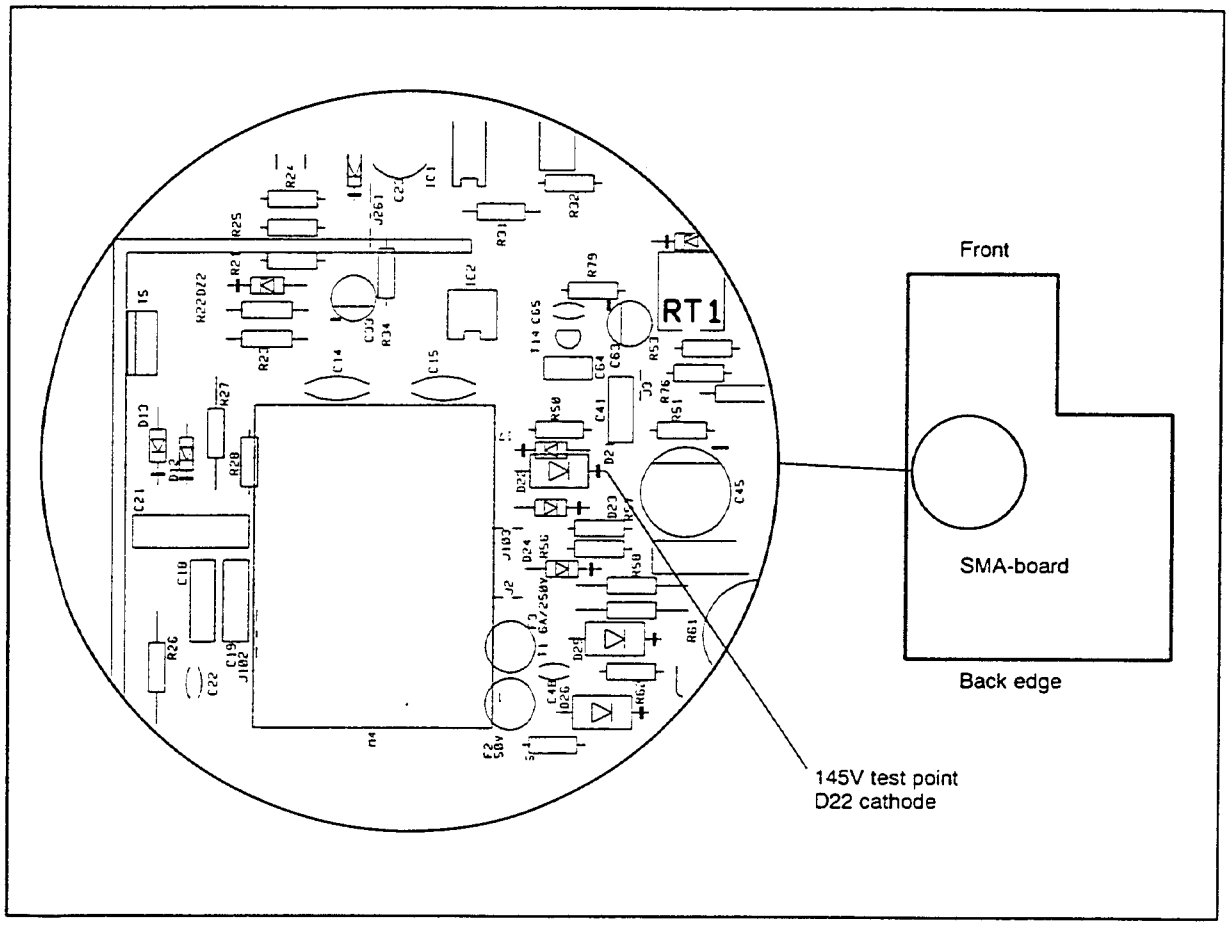
6.2. Preliminary Preparations

Connect the signal cable to the PC. Switch on the monitor and the PC. Let the monitor warm up for 20 minutes before starting the adjustments.

6.2.1. Operating Voltage

- Remove the signal cable from computer.
- Adjust the monitor mains voltage to 240V.
- Connect the DVM to 145 V test point. Adjust trimmer **RT1** on SMA-board for a voltage of **145V±0.5V**.
- Adjust the monitor mains voltage to 110V. The voltage at 145V testpoint must be 145V±1V.

Adjust the monitor mains to nominal voltage and connect the signal cable to the computer.

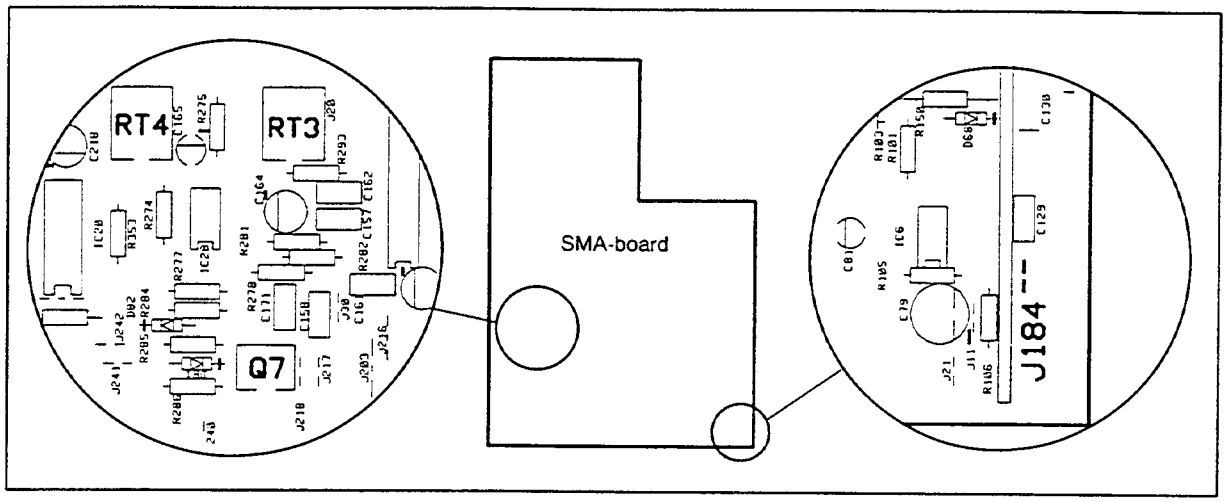


6.2.2. Sync Range Adjustment

This adjustment limits the horizontal frequency range.
Note that the free running frequencies of the phase locked loop controlled oscillator must be adjusted lower than the required limits because the PLL can only increase the free running frequency.

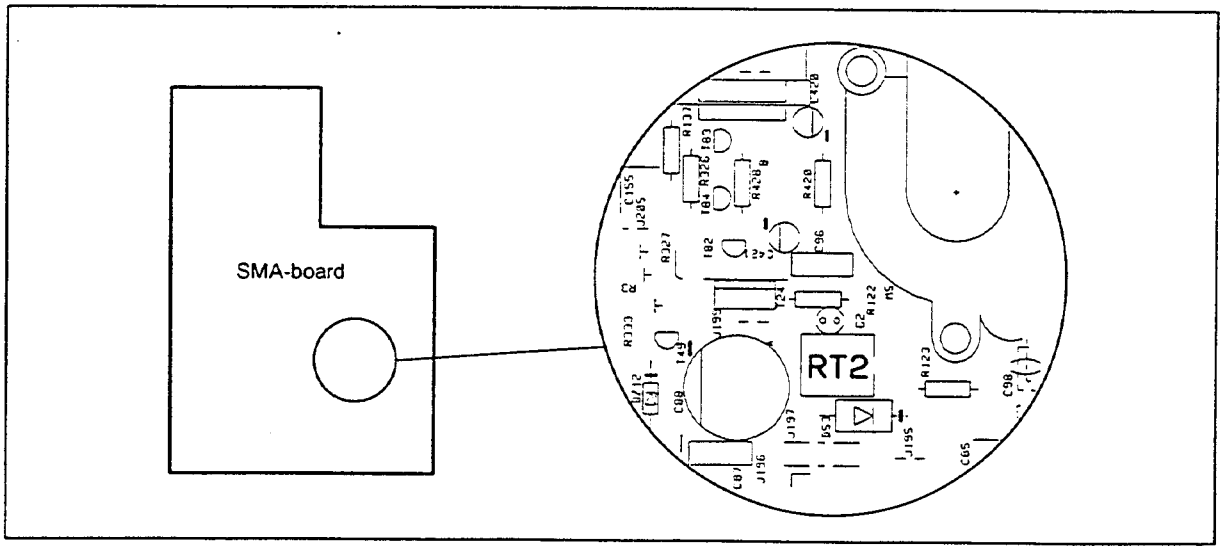
1) Short-circuit **Q7** pins on SMA–board. This inhibits the operation of the PLL during adjustment.
2) Connect the frequency meter to **J184** and **GND**.
3) Select a display mode with line frequency = 63.95 kHz
4) *Higher limit:* Adjust **RT3** on SMA–board until the meter shows a frequency = 57.45±0.25 kHz.
5) Select a display mode with line frequency = 31.47 kHz
6) *Lower limit:* Adjust **RT4** on SMA–board until the meter shows a frequency = 26.75±0.25 kHz.

Remember to remove the short-circuit on **Q7**.



6.2.3. High Voltage

- Select 31.47kHz/60Hz crosshatch test pattern.
- Connect the high voltage meter to the anode of the picture tube.
- Adjust the high voltage to **26.0 ±0.3 kV** with **RT2** on SMA–board.



6.2.4. Preliminary Picture Adjustments

1) Select 60.0 kHz/75 Hz crosshatch test pattern.
2) Set ◑ to maximum and adjust ☼ until the background is faintly visible.
3) Adjust focus if poor.

Remember

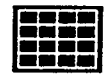
- Do not adjust **G2**–voltage with potentiometer or keypanel if you have reason to belive that there is no need to adjust gray scale.

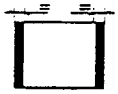
6.3. Geometry

Activate required service mode adjustment set as explained in chapter 'Service Mode'.
Degaussing must be carried out before the picture adjustments. Degaussing shall be repeated if the monitor is moved.

1) Select 60.0 kHz/75 Hz crosshatch test pattern.
   Set ◑ to maximum and adjust ☼ until the background is faintly visible.
   Reduce width until both vertical edges of the **background** are visible.

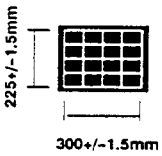
2) Centre the background.
   This adjustment is common for all display modes and will be stored at the moment of return to the user mode.



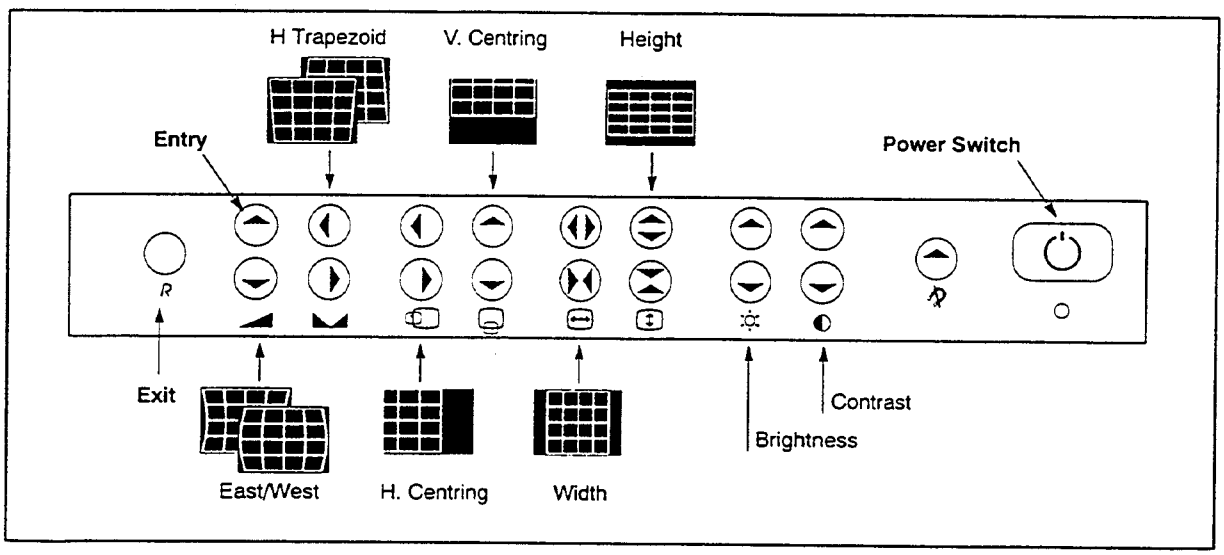


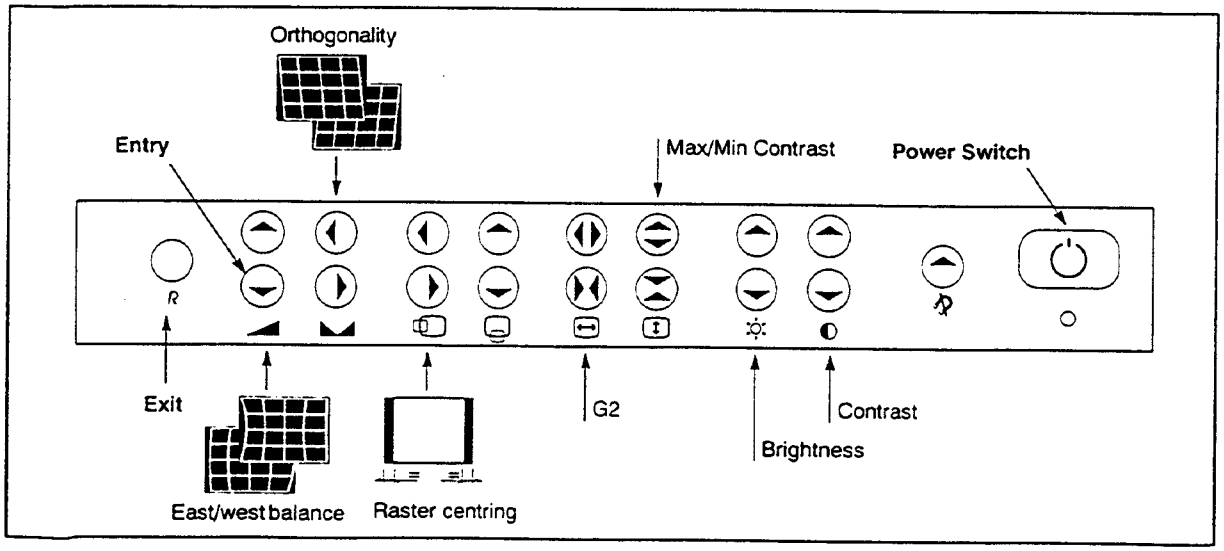
3) Adjust size, position and shape of the picture equal to the mask aperture. Adjust first the properties with largest deviation from the correct value.

4) Adjust final width and height.



5) Repeat steps 3) and 4) for every display mode to be stored. Note that the display mode can be changed without leaving the service mode.





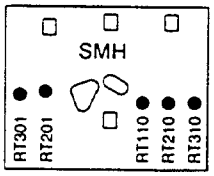
6.4. Grey Scale

The grey scale is adjusted for 7000K colour temperature. Activate service mode / group 2. Memorizing of G2 and Max/Min Contrast takes place at the moment of return to the user mode.

6.4.1. The Most Sensitive Colour

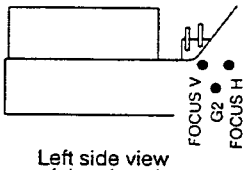
1) Select 60.0 kHz/75 Hz black test pattern.
2) Set ☼ and ◑ to maximum.
3) Set black level adjustment **RT110**, **RT210** and **RT310** on SMH-board to minimum (for darkest picture)
4) Adjust **G2 potentiometer** until the background is faintly visible.

The most sensitive colour has been marked in a label on the deflection yoke. It may not be correct if tube or SMH card has been changed. In that case judge the most sensitive colour from the tone of the picture.



6.4.2. Low Light

1) Select 60.0 kHz/75 Hz black test pattern.
2) Place the probe of the colour analyzer in the middle of the screen. Activate service mode, group 2.
3) Adjust picture brightness to 6±2 nits with **G2 trimmer**. Fine adjust with G2 adjustment on keypanel.
4) Adjust with ☼ the picture brightness to 2±0.5 nits.
5) Adjust the colour coordinates to (7000K)
   x = 0.303 ±0.020
   y = 0.325 ±0.020
   with **RT110**, **RT210** and **RT310. Do not adjust the most sensitive colour.**
6) Set ☼ and ◑ to the maximum and check that the brightness is still 6±2 nits. If not, repeat steps 4) and 5).



Left side view of the chassis

6.4.3. High Light

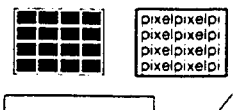
1) Select 60.0 kHz/75 Hz black test pattern.
2) Adjust with ☼ the picture brightness to 2±0.5 nits.
3) Select 60.0 kHz/75 Hz window test pattern.
4) Set **RT201** and **RT301** in the middle position with the help of color analyzers brightness reading.
5) Adjust with ◑ the picture brightness in the window to 100±5 nits.
6) Adjust colour coordinates in the window to
   x = 0.303 ±0.020
   y = 0.325 ±0.020
   with **RT201** and **RT301**. Check that the brightness reading is in limits (100±5 nits) after adjustment. If not, repeat steps 5) and 6).
7) Check 6.4.2 para 4) and 5). Readjust colour temperature if out of tolerance.

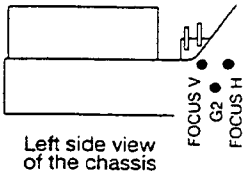
6.5. Maximum/Minimum Contrast

1) Set ◑ to the maximum.
2) Adjust with ☼ the picture brightness outside window to 2±0.5 nits.
3) Adjust brightness in the window to 150±30 nits with **Max/min contrast**.
4) Set ◑ to minimum.
5) Adjust brightness to 20±2 nits with **Max/min contrast**.
6) Exit service mode

6.6. Focus

1) Select 60.0 kHz/75 Hz crosshatch test pattern
2) Set ◑ to the maximum and adjust ☼ until the background is faintly visible
3) Adjust the sharpness with **FOCUS H** and **FOCUS V** to optimum. Repeat the focus adjustment.
4) Adjust ☼ until the background is invisible
5) Select focus test pattern. Check that all letters are clearly visible.





Left side view of the chassis

6.7. Convergence

Reduce first the convergence error in the middle of the screen to minimum using static adjustments. After the convergence is faultless in the middle of the tube, use dynamic adjustments to eliminate the error in the edges of the tube.

Static adjustments affects the whole picture area:
- magnet ring set on the tube neck (horizontal + vertical)

Dynamic adjustments affects a part of the picture area:
- deflection yoke trimmers.

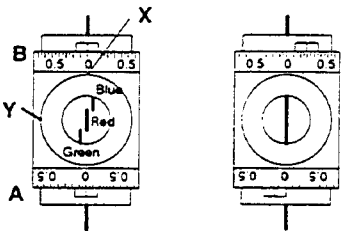
6.7.1. Measuring Conditions

- Adjust convergence with 60.0 kHz line frequency
- Make sure that focus is correctly set at the mid-point between the screen center and the edge of the picture.
- Use white crosshatch test pattern with circle.
- Adjust ◑ to near the maximum and reduce ☼ until the background disappears.

Convergence Measuring Gauge CM7AR

The use of the Klein CM7AR Convergence Gauge has been explained here but other types of gauges can be used as well.

Check that the adjusting knobs (A & B) are set to zero.
- Place the gauge on the line with marking **Y up** upwards when measuring horizontal line.
- Place the gauge on the line with marking **X up** upwards when measuring vertical line.
- If the line has convergence error, the line in the window seems to be broken.
- Use knobs A and B to adjust the line continuous.
- If the readings are on the opposite side of zero, the convergence error is A+B (e.g. 0.2 + 0.1 = 0.3).
- If the readings are on the same side of zero, the convergence error is equal to A if A > B or B if B > A

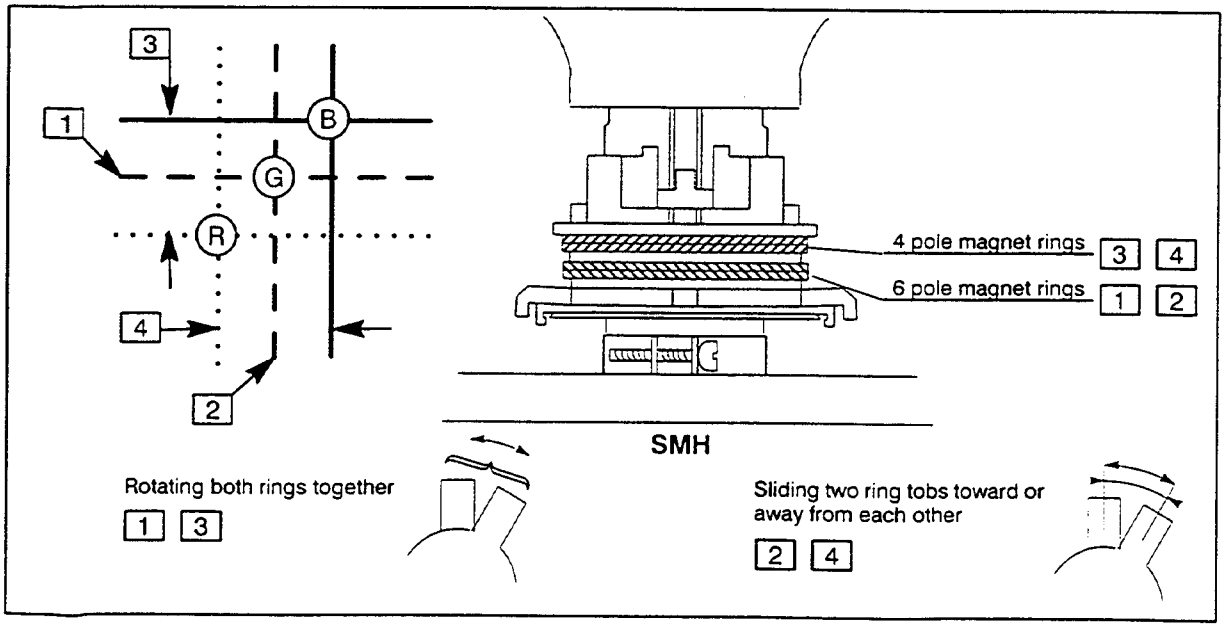


6.7.2. Static Convergence

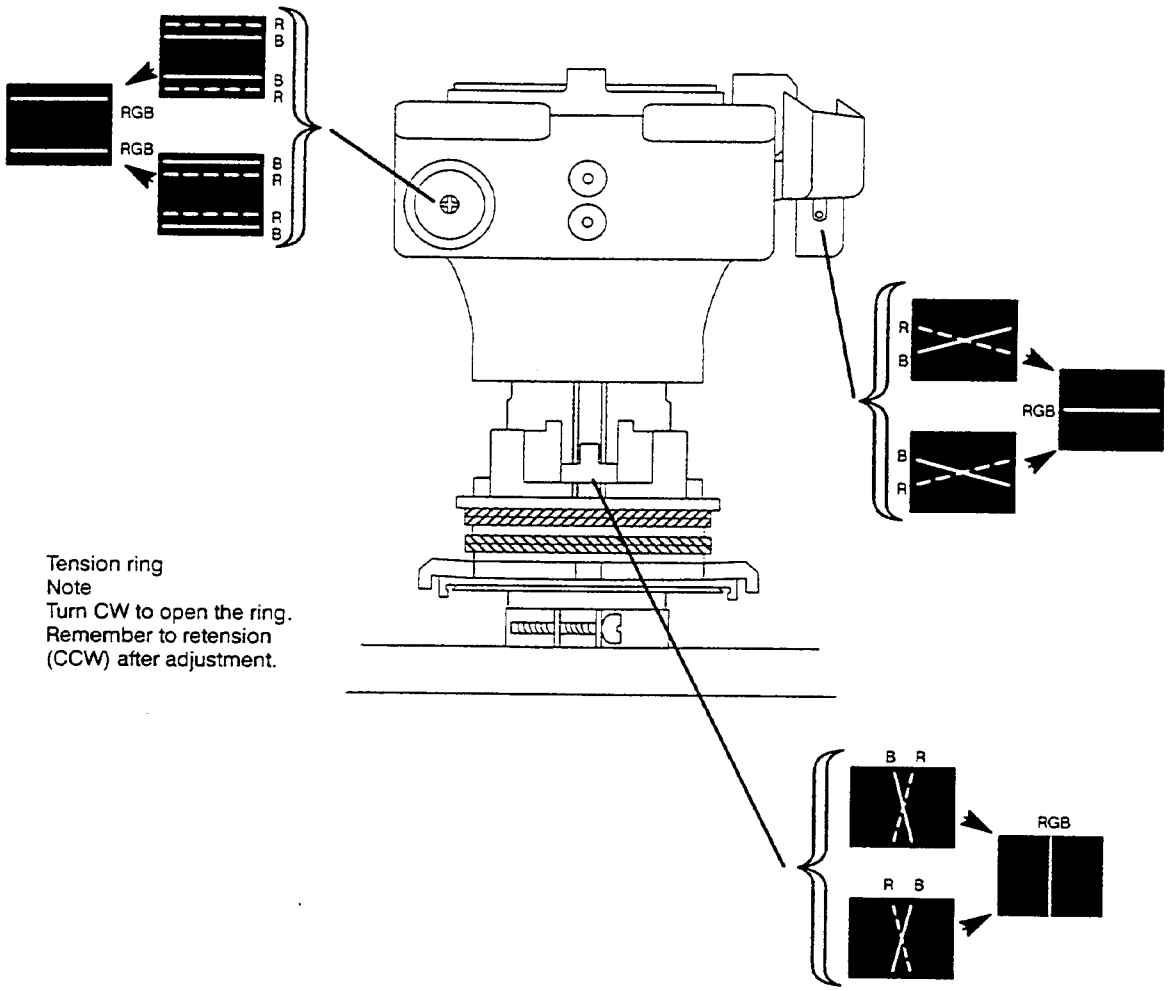
The magnet rings has been set to the optimum in the factory. Readjustment is necessary only in case the adjusting magnets have been accidentally moved.

[1] Adjust G vertically in the middle between R and B with 6 pole magnet rings.
[2] Adjust G horizontally in the middle between R and B with 6 pole magnet rings.
[3] Adjust R and B vertically to the same position with G line with 4 pole magnet rings
[4] Adjust R and B horizontally to the same position with G line with 4 pole magnet rings

Lock the rings with paint.

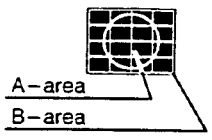


6.7.3. Dynamic Convergence



Allowed Convergence error when line frequency

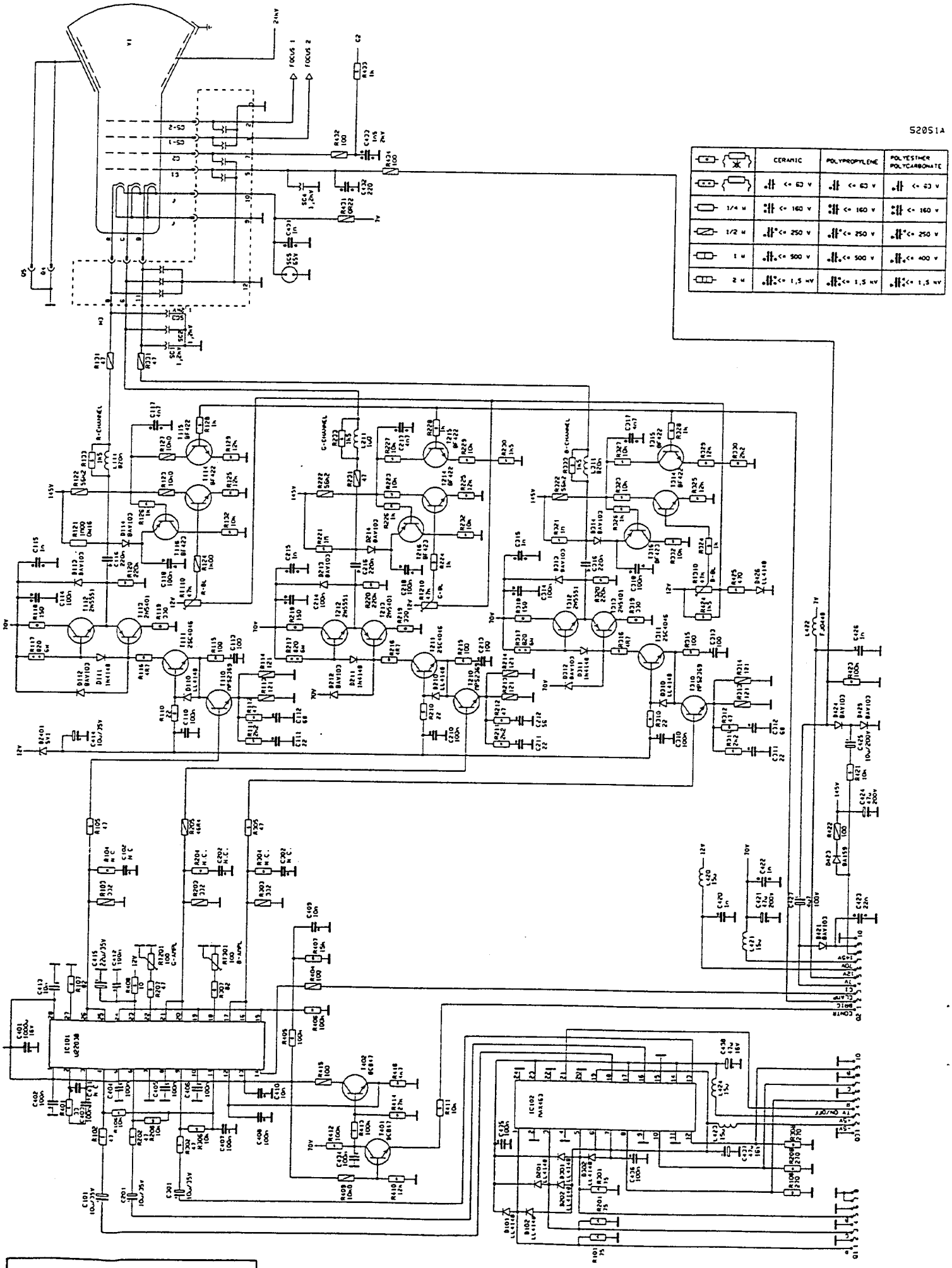
	≤48kHz	>48kHz
Area A	≤0.4 mm	≤0.3 mm
Area B	≤0.6 mm	≤0.4 mm



6.8. Colour Purity

Do not move purity magnet rings. If the purity magnet rings are found to have moved during transportation or handling, set them just in the original position by tracing the locking paint put on purity magnet rings and holder of beam bender and then readjust the static convergence.

Part Number	Description	PG		Item Number
SMH133	**CRT MODULE**			
AB0653	R NF 0W25 150R J CF	1	RH	118 218 318
AB0661	R NF 0W25 330R J CF	1	RH	119 219 319
AB0801	R NF 0W5 1R0 J CF	2	RH	431
AC3584	R SMD 0W1 75R 1%	1	RH	101 201 301
AC4400	R SMD 0W1 0R0 5%	1	JH	050 051 052
AC4417	R SMD 0W1 4R7 5%	1	RH	116 216 316
AC4425	R SMD 0W1 10R 5%	1	RH	408
AC4433	R SMD 0W1 22R 5%	1	RH	110 210 310
AC4437	R SMD 0W1 33R 5%	1	RH	401
AC4441	R SMD 0W1 47R 5%	1	RH	102 105 112 202 207 212 302 305 312
AC4447	R SMD 0W1 82R 5%	1	RH	107 307
AC4449	R SMD 0W1 100R 5%	1	RH	115 215 315
AC4459	R SMD 0W1 270R 5%	1	RH	108 208 308
AC4465	R SMD 0W1 470R 5%	1	RH	425
AC4473	R SMD 0W1 1K0 5%	1	RH	126 128 224 226 228 324 326 328 433
AC4477	R SMD 0W1 1K5 5%	1	RH	133 233 333 424 230
AC4481	R SMD 0W1 2K2 5%	1	RH	111 211 311 330
AC4489	R SMD 0W1 4K7 5%	1	RH	416
AC4497	R SMD 0W1 10K 5%	1	RH	106 132 206 223 229 227 232 306 323
AC4497	R SMD 0W1 10K 5%	1	RH	327 332 411 421
AC4499	R SMD 0W1 12K 5%	1	RH	129 329 410 125 225 325
AC4501	R SMD 0W1 15K 5%	1	RH	407
AC4507	R SMD 0W1 27K 5%	1	RH	414
AC4521	R SMD 0W1 100K 5%	1	RH	405 406 412 413 423
AC4529	R SMD 0W1 220K 5%	1	RH	120 220 320
AC4545	R SMD 0W1 1M0 5%	1	RH	221 321
AD0341	R COMP 0W5 47R K	3	RH	131 231 331
AD0349	R COMP 0W5 100R K	1	RH	432 434
AG1701	R MF 0W16 1M00 J	1	RH	121
AG3265	R MF 0W5 46R4 F	1	RH	205
AG3301	R MF 0W5 100R F	1	RH	404 415 422
AG3309	R MF 0W5 121R F	1	RH	113 114 213 214 313 314
AG3351	R MF 0W5 332R F	1	RH	103 203 303
AG3401	R MF 0W5 1K00 F	1	RH	124
AG3501	R MF 0W5 10K0 F	1	RH	123 127 409
AG3573	R MF 0W5 56K2 F	1	RH	122 222 322
AJ2987	R MO 6W0 820R J	3	RH	117 217 317
AP1101	FOCUS BLOCK	27	FOC	001
AQ2211	TPMET. 100R	3	RTH	201 301
AQ2219	TPMET. 47K	3	RTH	110 210 310
CA0320	C CER 1N5 K 2KV	3	CH	433
CB3133	C CER SMD 22P 50V J	1	CH	111 211 311
CB3143	C CER SMD 56P 50V J	1	CH	212
CB3145	C CER SMD 68P 50V J	1	CH	112 312
CB3151	C CER SMD 100P 50V J	1	CH	113 213 313
CB3175	C CER SMD 1N0 50V J	3	CH	420 426
CC0130	C CER 220P K 500V	1	CH	432
CC0200	C CER 1N0 K 500V	1	CH	115 215 315 422 431
CC0530	C CER 4N7 S 500V	1	CH	117 217 317 423
CC3320	C CER SMD 10N 10% 50V	1	CH	409 410 413
CC3480	C CER SMD 10% 100N 25V	2	CH	435 436
CC4855	C SMD 100N Z 50V	3	CH	110 210 310 402 403 404 405 406 407 408
CC4855	C SMD 100N Z 50V	3	CH	412 434
CK0284	C PES MKT 100N K 250V	2	CH	114 118 214 218 314 318
CK0341	C PES MKT 220N K 100V	3	CH	116 216 316
CN0420	C ELYT 47U M 16V	3	CH	437 438
CN2029	C ELYT 4U7 M 100V	3	CH	427
CN2032	C ELYT 10U M 50V	1	CH	101 201 301 414
CN2044	C ELYT 10U M 350V	7	CH	425
CN2372	C ELYT 22UF M 35V	3	CH	415
CN2467	C ELYT 47U M 200V	5	CH	421 424
CN2712	C ELYT 1000U M 16V	5	CH	401
FA0019	COIL SMD 820NH	4	LH	111 311
FA0020	COIL SMD 1U0H	4	LH	211
FJ0448	CHOKE 15UH	2	LH	422
FJ0505	CHOKE 15UH 5%	2	LH	420 421 423 424
JF0025	DI 1N4148 75V 200MA	1	DH	111 211 311
JF0062	DI BA159 1000V 400MA 500N	2	DH	423
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DH	112 113 114 212 213 214 312 313 314 421
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DH	424 425
JF4005	DI LL4148 75V 150MA	1	DH	101 102 110 202 210 301 302 310 426 201
JH0087	ZDI BZX83C5V1 5.1V 0.5W 5%	1	DZH	401
JM0205	TR BF423 P 250V 25MA	3	TH	116 216 316
JM0227	TR MPS2369 N 15V 200MA 500M	3	TH	110 210 310
JM0244	TR BF422 N 250V 25MA	2	TH	114 115 214 215 314 315
JM0273	TR 2N5551 NPN 160V 0,6A	2	TH	112 212 312
JM0280	TR 2N5401 P 150V 0.6A 100M	2	TH	113 213 313
JM0329	TR 2SC4934D/E N 120V 0.2A 350MHZ	6	TH	111 211 311
JM4105	TR BC847B N 45V 0.1A SOT23	4	TH	401 402
LM0910	IC U2203B VIDEO AMPL.3-CH 90MHZ	14	ICH	101
LM0935	IC MAX463CNG 3XRGB SWITCH&BUFFER	21	ICH	102
QK1016	CRT-CONNECTOR	15	QH	003
QK1470	ROW CONN 1X08	5	QH	001
QM1013	PICOFLEX ASSY BI-IDC 10-POS 400MM	15	QH	003
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	3	SGH	001 002 003 004
QT0217	GLIMM LAMP 65V	3	SGH	005
SE2577	WIRE BUNDLE SMA-SMB	10	QH	002
UC2653	HEATSINK	3	TH	111 211 311
UC6803	SHIELD FOR SOCKET BOARD	10	013	
UC6804	COVER	8	011	
UC6823	FASTENING SPRING TO126 INSULATED	3	TH	111 211 311



SMH133

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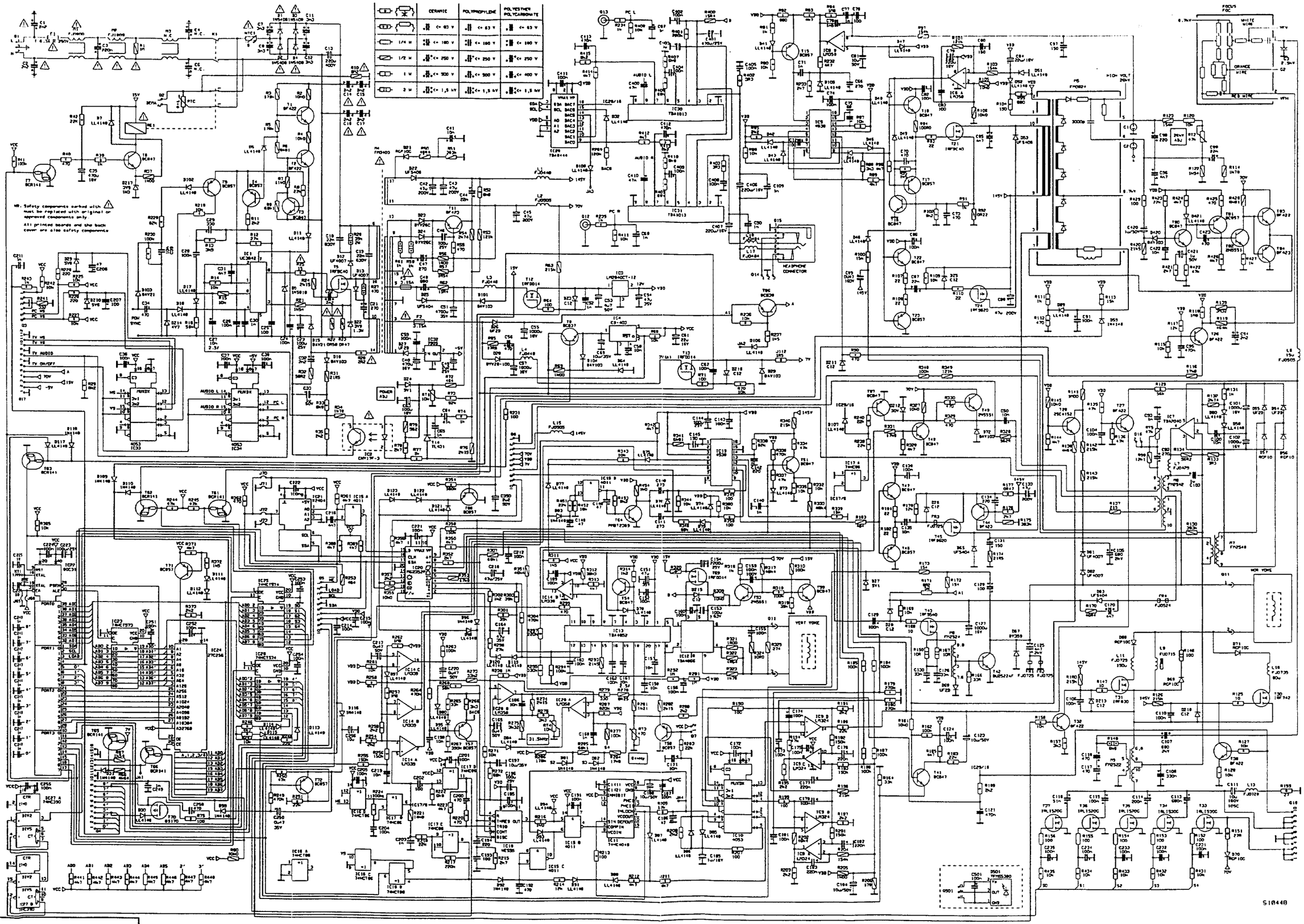
1

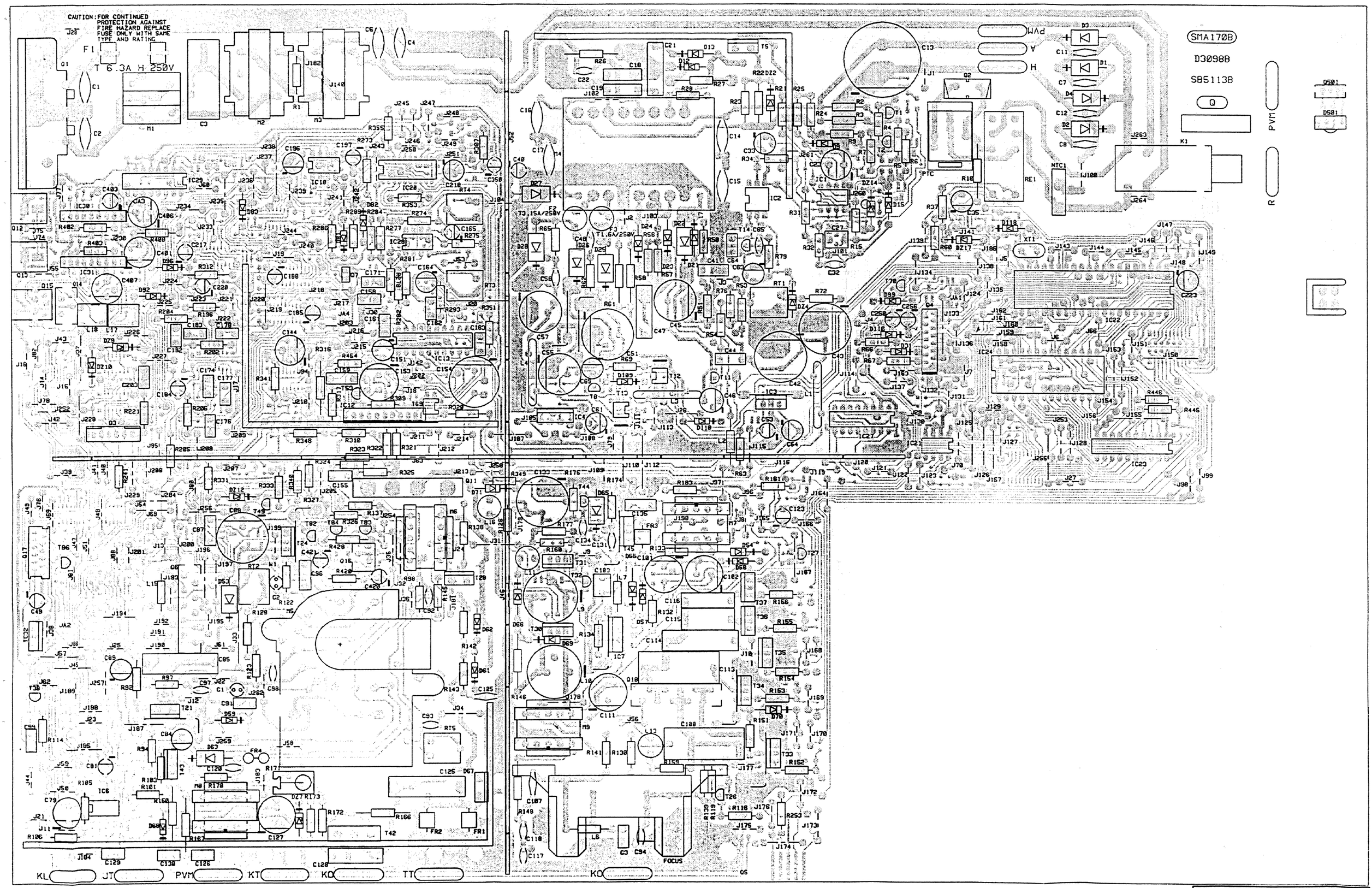
Part Number	Description	PG	Item Number
UC0859	FASTENING SPRING	2	ICA 003 004 007
UC1140	HEATSINK	2	DA 025 026
UC1140	HEATSINK	2	ICA 003 004 007
UC1140	HEATSINK	2	TA 021 033 034 045
UC2420	HEATSINK	8	TA 024
UC6547	HEATSINK	8	DA 067
UC6547	HEATSINK	8	TA 042
UC6548	HEATSINK	5	ICA 012
UC6548	HEATSINK	5	TA 005
UC6551	FASTENING SPRING	3	DA 067
UC6551	FASTENING SPRING	3	TA 005
UC6552	FASTENING SPRING	3	TA 042
UC6552	FASTENING SPRING	3	ICA 012
UC6743	SUPPORT	6	
UC6752	WASHER	1	QA 001
UC6752	WASHER	1	MA 005
UC6756	SUPPORT	16	
UC6762	SUPPORT	6	
UG0778	SUPPORT STUD	1	

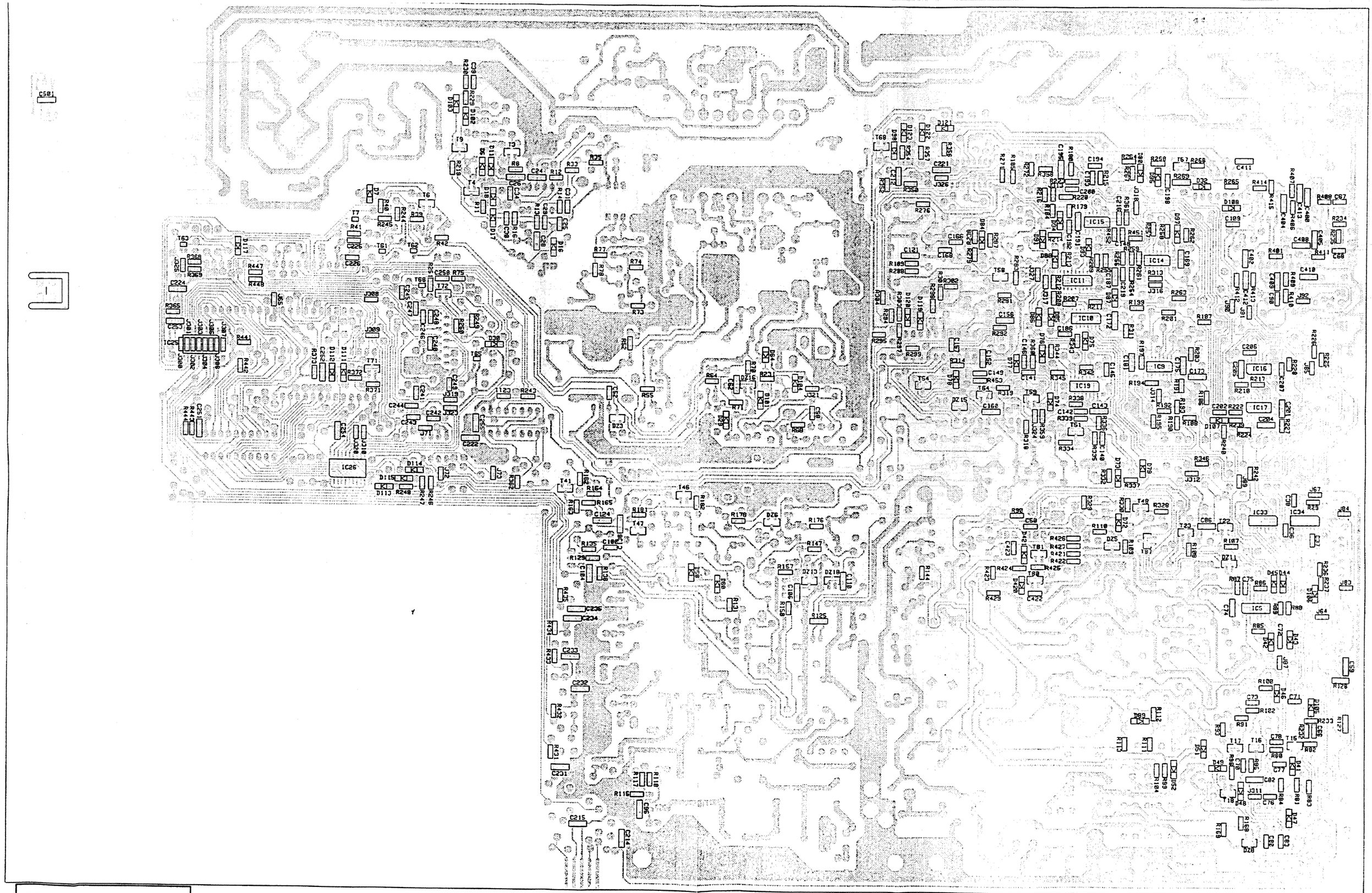
Part Number	Description	PG	Item Number
UG0817	MODULE HOLDER	0	
UJ0125	LEAD BAND SST 1 M	1	
UL0727	PLASTIC GROOVE	4	
WC0036	HEX PT-SCREW	1	
WC0446	HEX PT-SCREW 2,9X8	1	



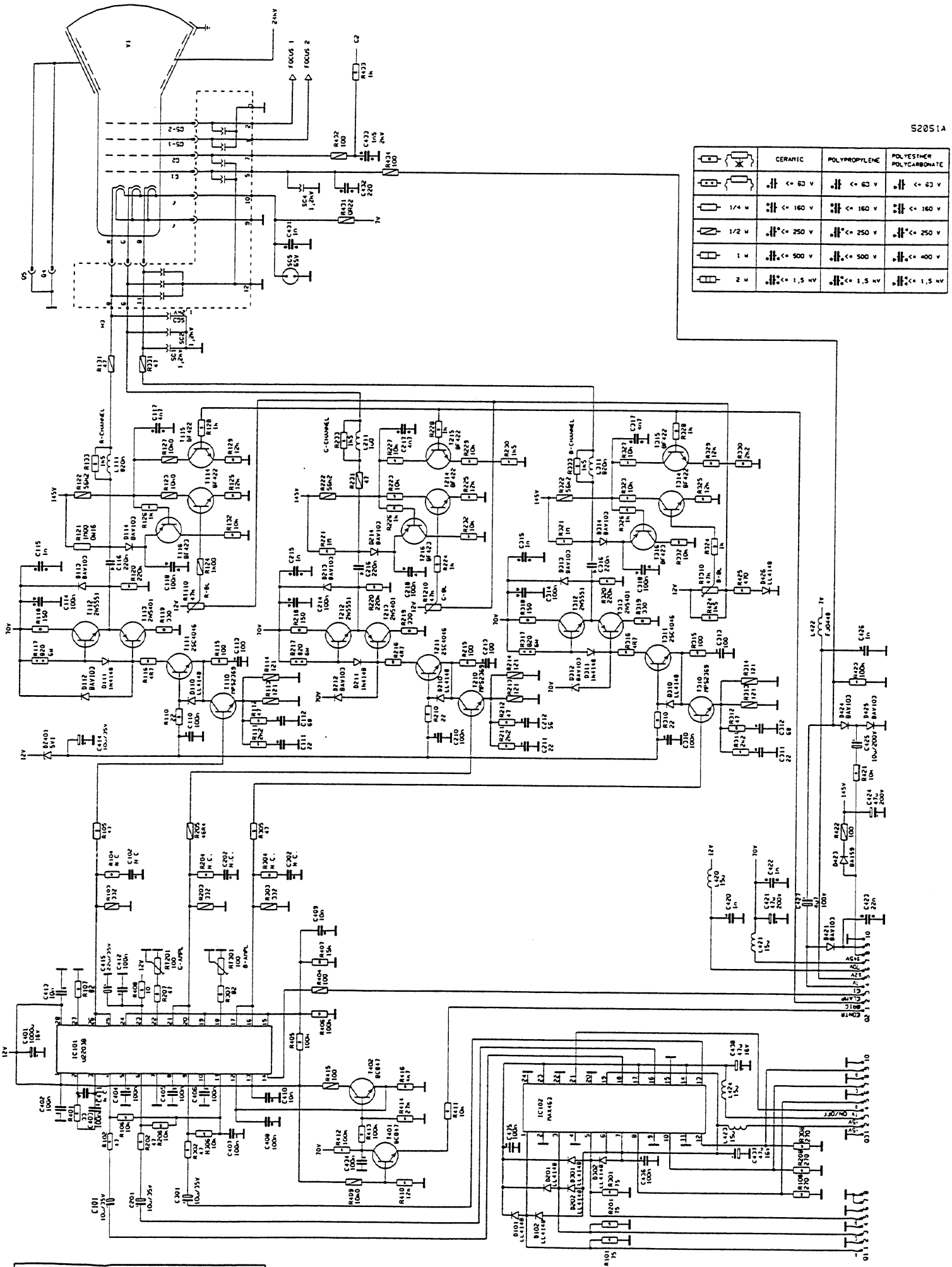
SMA170 1

D3098 12.95 Page 4


CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD REPLACE FUSE ONLY WITH SAME TYPE AND RATING
F1
T 6.3A H 250V
SMA170B
D3098B
SB5113B
PVM
KL
JT
PVM
KT
KO
TT
KO
FOCUS



Part Number	Description	PG		Item Number
SMH133	**CRT MODULE**			
AB0653	R NF 0W25 150R J CF	1	RH	118 218 318
AB0661	R NF 0W25 330R J CF	1	RH	119 219 319
AB0801	R NF 0W5 1R0 J CF	2	RH	431
AC3584	R SMD 0W1 75R 1%	1	RH	101 201 301
AC4400	R SMD 0W1 0R0 5%	1	JH	050 051 052
AC4417	R SMD 0W1 4R7 5%	1	RH	116 216 316
AC4425	R SMD 0W1 10R 5%	1	RH	408
AC4433	R SMD 0W1 22R 5%	1	RH	110 210 310
AC4437	R SMD 0W1 33R 5%	1	RH	401
AC4441	R SMD 0W1 47R 5%	1	RH	102 105 112 202 207 212 302 305 312
AC4447	R SMD 0W1 82R 5%	1	RH	107 307
AC4449	R SMD 0W1 100R 5%	1	RH	115 215 315
AC4459	R SMD 0W1 270R 5%	1	RH	108 208 308
AC4465	R SMD 0W1 470R 5%	1	RH	425
AC4473	R SMD 0W1 1K0 5%	1	RH	126 128 224 226 228 324 326 328 433
AC4477	R SMD 0W1 1K5 5%	1	RH	133 233 333 424 230
AC4481	R SMD 0W1 2K2 5%	1	RH	111 211 311 330
AC4489	R SMD 0W1 4K7 5%	1	RH	416
AC4497	R SMD 0W1 10K 5%	1	RH	106 132 206 223 229 227 232 306 323
AC4497	R SMD 0W1 10K 5%	1	RH	327 332 411 421
AC4499	R SMD 0W1 12K 5%	1	RH	129 329 410 125 225 325
AC4501	R SMD 0W1 15K 5%	1	RH	407
AC4507	R SMD 0W1 27K 5%	1	RH	414
AC4521	R SMD 0W1 100K 5%	1	RH	405 406 412 413 423
AC4529	R SMD 0W1 220K 5%	1	RH	120 220 320
AC4545	R SMD 0W1 1M0 5%	1	RH	221 321
AD0341	R COMP 0W5 47R K	3	RH	131 231 331
AD0349	R COMP 0W5 100R K	1	RH	432 434
AG1701	R MF 0W16 1M00 J	1	RH	121
AG3265	R MF 0W5 46R4 F	1	RH	205
AG3301	R MF 0W5 100R F	1	RH	404 415 422
AG3309	R MF 0W5 121R F	1	RH	113 114 213 214 313 314
AG3351	R MF 0W5 332R F	1	RH	103 203 303
AG3401	R MF 0W5 1K00 F	1	RH	124
AG3501	R MF 0W5 10K0 F	1	RH	123 127 409
AG3573	R MF 0W5 56K2 F	1	RH	122 222 322
AJ2987	R MO 6W0 820R J	3	RH	117 217 317
AP1101	FOCUS BLOCK	27	FOC	001
AQ2211	TPMET. 100R	3	RTH	201 301
AQ2219	TPMET. 47K	3	RTH	110 210 310
CA0320	C CER 1N5 K 2KV	3	CH	433
CB3133	C CER SMD 22P 50V J	1	CH	111 211 311
CB3143	C CER SMD 56P 50V J	1	CH	212
CB3145	C CER SMD 68P 50V J	1	CH	112 312
CB3151	C CER SMD 100P 50V J	1	CH	113 213 313
CB3175	C CER SMD 1N0 50V J	3	CH	420 426
CC0130	C CER 220P K 500V	1	CH	432
CC0200	C CER 1N0 K 500V	1	CH	115 215 315 422 431
CC0530	C CER 4N7 S 500V	1	CH	117 217 317 423
CC3320	C CER SMD 10N 10% 50V	1	CH	409 410 413
CC3480	C CER SMD 10% 100N 25V	2	CH	435 436
CC4855	C SMD 100N Z 50V	3	CH	110 210 310 402 403 404 405 406 407 408
CC4855	C SMD 100N Z 50V	3	CH	412 434
CK0284	C PES MKT 100N K 250V	2	CH	114 118 214 218 314 318
CK0341	C PES MKT 220N K 100V	3	CH	116 216 316
CN0420	C ELYT 47U M 16V	3	CH	437 438
CN2029	C ELYT 4U7 M 100V	3	CH	427
CN2032	C ELYT 10U M 50V	1	CH	101 201 301 414
CN2044	C ELYT 10U M 350V	7	CH	425
CN2372	C ELYT 22UF M 35V	3	CH	415
CN2467	C ELYT 47U M 200V	5	CH	421 424
CN2712	C ELYT 1000U M 16V	5	CH	401
FA0019	COIL SMD 820NH	4	LH	111 311
FA0020	COIL SMD 1U0H	4	LH	211
FJ0448	CHOKE 15UH	2	LH	422
FJ0505	CHOKE 15UH 5%	2	LH	420 421 423 424
JF0025	DI 1N4148 75V 200MA	1	DH	111 211 311
JF0062	DI BA159 1000V 400MA 500N	2	DH	423
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DH	112 113 114 212 213 214 312 313 314 421
JF4003	DI BAV103 200V 250MA 50NS SOD-80	7	DH	424 425
JF4005	DI LL4148 75V 150MA	1	DH	101 102 110 202 210 301 302 310 426 201
JH0087	ZDI BZX83C5V1 5.1V 0.5W 5%	1	DZH	401
JM0205	TR BF423 P 250V 25MA	3	TH	116 216 316
JM0227	TR MPS2369 N 15V 200MA 500M	3	TH	110 210 310
JM0244	TR BF422 N 250V 25MA	2	TH	114 115 214 215 314 315
JM0273	TR 2N5551 NPN 160V 0,6A	2	TH	112 212 312
JM0280	TR 2N5401 P 150V 0.6A 100M	2	TH	113 213 313
JM0329	TR 2SC4934D/E N 120V 0.2A 350MHZ	6	TH	111 211 311
JM4105	TR BC847B N 45V 0.1A SOT23	4	TH	401 402
LM0910	IC U2203B VIDEO AMPL.3-CH 90MHZ	14	ICH	101
LM0935	IC MAX463CNG 3XRGB SWITCH&BUFFER	21	ICH	102
QK1016	CRT-CONNECTOR	15	QH	003
QK1470	ROW CONN 1X08	5	QH	001
QM1013	PICOFLEX ASSY BI-IDC 10-POS 400MM	15	QH	003
QT0002	SPARK GAP 1,2KV +-500V R=5,0MM	3	SGH	001 002 003 004
QT0217	GLIMM LAMP 65V	3	SGH	005
SE2577	WIRE BUNDLE SMA-SMB	10	QH	002
UC2653	HEATSINK	3	TH	111 211 311
UC6803	SHIELD FOR SOCKET BOARD	10	013	
UC6804	COVER	8	011	
UC6823	FASTENING SPRING TO126 INSULATED	3	TH	111 211 311

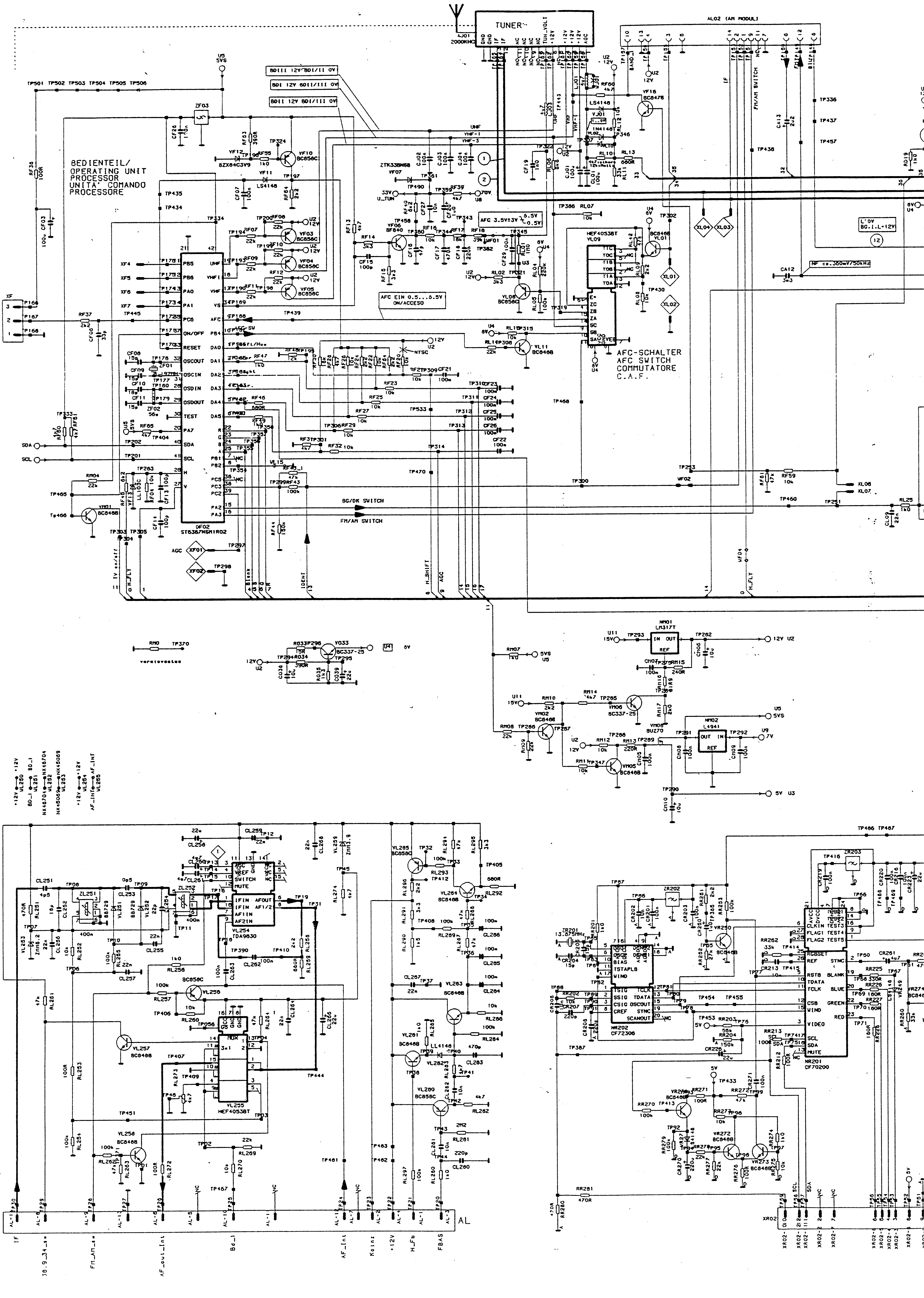

S20S1A
CERAMIC
POLYPROPYLENE
POLYESTHER POLYCARBONATE
FOCUS 1
FOCUS 2
R-CHANNEL
G-CHANNEL
B-CHANNEL
IC101 U2030B
IC102 MAX463

Part Number	Description	PG	Item Number
SMA170	**MAIN BOARD**		
AB0593	R NF 0W25 0R47 J CF	1	RA 177
AB0609	R NF 0W25 2R2 J CF	1	RA 028
AB0613	R NF 0W25 3R3 J CF	1	RA 402 403
AB0629	R NF 0W25 15R J CF	1	RA 025
AB0635	R NF 0W25 27R	1	RA 151 159
AB0785	R NF 0W5 0R22 J CF	2	RA 092
AB0793	R NF 0W5 0R47 J CF	4	RA 023
AB0795	R NF 0W5 0R56 J CF	2	RA 022
AB0801	R NF 0W5 1R0 J CF	2	RA 320
AB0805	R NF 0W5 1R5 J CF	1	JA 112
AB0813	R NF 0W5 3R3 J CF	2	RA 133
AC4400	R SMD 0W1 0R0 5%	1	JA 065 071 072 310 311 312 313 314 316
AC4400	R SMD 0W1 0R0 5%	1	JA 317 318 319 320 321 323 324 325 326 327
AC4400	R SMD 0W1 0R0 5%	1	JA 064 067 083 084 085 087 089 090 091 092
AC4425	R SMD 0W1 10R 5%	1	RA 147 168
AC4433	R SMD 0W1 22R 5%	1	RA 093 107 108 110 181 182
AC4449	R SMD 0W1 100R 5%	1	RA 064 071 075 190 199 207 213 345 359 429
AC4449	R SMD 0W1 100R 5%	1	RA 231
AC4453	R SMD 0W1 150R 5%	1	RA 104
AC4457	R SMD 0W1 220R 5%	1	RA 226 228
AC4461	R SMD 0W1 330R 5%	1	RA 279
AC4465	R SMD 0W1 470R 5%	1	RA 040 055 090 112 220 299 329 330 362 425
AC4469	R SMD 0W1 680R 5%	1	RA 082 099
AC4473	R SMD 0W1 1K0 5%	1	RA 039 074 077 081 091 111 131 216 243 427
AC4473	R SMD 0W1 1K0 5%	1	RA 234 235
AC4475	R SMD 0W1 1K2 5%	1	RA 302 314
AC4477	R SMD 0W1 1K5 5%	1	RA 095 237 311 372
AC4481	R SMD 0W1 2K2 5%	1	RA 011 035 085 191 195 197 203 208 254 259
AC4481	R SMD 0W1 2K2 5%	1	RA 357 373 288
AC4483	R SMD 0W1 2K7 5%	1	RA 078 176 215 233 352 421 189
AC4485	R SMD 0W1 3K3 5%	1	RA 088 157 266 276
AC4487	R SMD 0W1 3K9 5%	1	RA 013
AC4489	R SMD 0W1 4K7 5%	1	RA 083 089 096 144 165 211 212 223 246
AC4489	R SMD 0W1 4K7 5%	1	RA 258 313 328 342 350 356 361 368 369
AC4489	R SMD 0W1 4K7 5%	1	RA 371 412 414 424 426
AC4493	R SMD 0W1 6K8 5%	1	RA 033 052 222 407 410
AC4495	R SMD 0W1 8K2 5%	1	RA 029 102 413 415 453
AC4497	R SMD 0W1 10K 5%	1	RA 014 068 070 080 086 087 109 115 158 169
AC4497	R SMD 0W1 10K 5%	1	RA 225 227 236 242 247 261 271 332 335 343
AC4497	R SMD 0W1 10K 5%	1	RA 344 360 365 408 411 431 432 433 434 435
AC4497	R SMD 0W1 10K 5%	1	RA 219 232
AC4499	R SMD 0W1 12K 5%	1	RA 117 178 209 214
AC4501	R SMD 0W1 15K 5%	1	RA 100 113 339
AC4503	R SMD 0W1 18K 5%	1	RA 452
AC4505	R SMD 0W1 22K 5%	1	RA 008 042 188 218 239 240 248 251 283 423
AC4505	R SMD 0W1 22K 5%	1	RA 451 163
AC4507	R SMD 0W1 27K 5%	1	RA 012 298
AC4509	R SMD 0W1 33K 5%	1	RA 164 265
AC4511	R SMD 0W1 39K 5%	1	RA 301 303 319
AC4513	R SMD 0W1 47K 5%	1	RA 136 194 244 245 250 334 337 422
AC4515	R SMD 0W1 56K 5%	1	RA 016 129 268 135
AC4517	R SMD 0W1 68K 5%	1	RA 272 346 406 409
AC4519	R SMD 0W1 82K 5%	1	RA 073 229 338
AC4521	R SMD 0W1 100K 5%	1	RA 041 162 184 185 186 187 224 263 318 230
AC4521	R SMD 0W1 100K 5%	1	RA 294
AC4525	R SMD 0W1 150K 5%	1	RA 192 193 201 255 256 358
AC4529	R SMD 0W1 220K 5%	1	RA 217 297 401
AC4531	R SMD 0W1 270K 5%	1	RA 179 180
AC4533	R SMD 0W1 330K 5%	1	RA 295
AC4535	R SMD 0W1 390K 5%	1	RA 267
AC4537	R SMD 0W1 470K 5%	1	RA 249 264 304 336
AC4539	R SMD 0W1 560K 5%	1	RA 354
AC4543	R SMD 0W1 820K 5%	1	RA 287
AC4545	R SMD 0W1 1M0 5%	1	RA 238 291 292
AC4551	R SMD 0W1 1M8 5%	1	RA 084 118 257 262
AC8625	R SMD 0W12 10R J	1	RA 125
AC8697	R SMD 0W12 10K J	1	RA 127 128
AC8723	R SMD 0W12 120K J	1	RA 269
AD0445	R COMP 0W5 1M0 K	1	RA 001
AD1967	R SAFE 0W5 8M2 K	1	RA 010
AG3101	R MF 0W5 1R00 F	1	RA 056 321
AG3119	R MF 0W5 1R54 F	1	RA 057
AG3165	R MF 0W5 4R64 F	1	RA 322
AG3201	R MF 0W5 10R0 F	1	RA 324
AG3219	R MF 0W5 15R4 F	1	RA 062 400
AG3225	R MF 0W5 17R8 F	1	RA 065
AG3233	R MF 0W5 21R5 F	1	RA 031 174
AG3265	R MF 0W5 46R4 F	1	RA 050 170
AG3265	R MF 0W5 46R4 F	1	TA 087
AG3273	R MF 0W5 56R2 F	1	RA 032 134
AG3301	R MF 0W5 100R F	1	RA 094 152 153 154 155 156
AG3319	R MF 0W5 154R F	1	RA 172 173
AG3325	R MF 0W5 178R F	1	RA 206
AG3333	R MF 0W5 215R F	1	RA 137
AG3343	R MF 0W5 274R F	1	RA 325
AG3351	R MF 0W5 332R F	1	RA 241
AG3365	R MF 0W5 464R F	1	RA 072 183 253
AG3373	R MF 0W5 562R F	1	RA 079 326

Part Number	Description	PG	Item Number
AG3401	R MF 0W5 1K00 F	1	RA 037 069 205 454
AG3409	R MF 0W5 1K21 F	1	RA 281
AG3419	R MF 0W5 1K54 F	1	DA 096
AG3419	R MF 0W5 1K54 F	1	RA 021 067 122
AG3425	R MF 0W5 1K78 F	1	RA 034 114 323
AG3433	R MF 0W5 2K15 F	1	RA 024 076 274 282
AG3443	R MF 0W5 2K74 F	1	RA 054 132
AG3451	R MF 0W5 3K32 F	1	RA 275
AG3465	R MF 0W5 4K64 F	1	RA 066 138
AG3481	R MF 0W5 6K81 F	1	RA 006 341 428
AG3489	R MF 0W5 8K25 F	1	RA 278
AG3501	R MF 0W5 10K0 F	1	RA 002 004 060 105 106 145 161 309 327 355
AG3501	R MF 0W5 10K0 F	1	RA 015
AG3505	R MF 0W5 11K0 F	1	RA 007
AG3509	R MF 0W5 12K1 F	3	RA 098
AG3515	R MF 0W5 14K0 F	1	RA 221
AG3525	R MF 0W5 17K8 F	1	RA 116 284 331 353
AG3533	R MF 0W5 21K5 F	1	RA 293 420
AG3551	R MF 0W5 33K2 F	1	RA 273
AG3557	R MF 0W5 38K3 F	1	RA 312
AG3565	R MF 0W5 46K4 F	1	RA 202 317 333 351
AG3581	R MF 0W5 68K1 F	1	RA 009 285 307
AG3601	R MF 0W5 100K F	1	RA 277 310 348
AG3609	R MF 0W5 121K F	1	RA 053 101 349
AG3619	R MF 0W5 154K F	1	RA 097 103 123 204
AG3625	R MF 0W5 178K F	1	RA 003 005 286
AG3633	R MF 0W5 215K F	1	RA 063 142 143 160 196 126 340
AG3657	R MF 0W5 383K F	1	RA 051 130 175
AG3665	R MF 0W5 464K F	1	RA 119
AG3701	R MF 0W5 1M00 F	1	RA 141
AG3751	R MF 0W5 3M32 F	1	RA 139
AJ0053	R WW 5W0 8R2 K	3	RA 171
AJ2523	R MO 2W0 10R J	2	RA 150 167
AJ2641	R MO 1W0 33R J	1	RA 166
AJ2763	R MO 2W0 100R J	2	RA 146
AJ2923	R MO 2W0 470R J	2	RA 027
AJ3003	R MO 2W0 1K0 J	2	RA 058 061 316
AJ3203	R MO 2W0 6K8 J	2	RA 148
AJ3383	R MO 2W0 39K J	2	RA 026
AQ2213	TPMET. 470R	3	RTA 003
AQ2217	TPMET. 10K	3	RTA 001 004
AQ2219	TPMET. 47K	3	RTA 002 005
AW0089	DUAL–PTC 15 OHM/25'	17	PTCA 001
AW0111	NTC–THERMISTOR 5R0/25'C	7	NTCA 001
CA0318	C CER 680P M 2KV	2	CA 105 107
CA0322	C CER 2N2 K 1KV	2	CA 094
CB3059	C SMD 220P G 50V	2	CA 142 194
CB3131	C CER SMD 18P 50V J	1	CA 225 226
CB3141	C CER SMD 47P 50V J	1	CA 148 149 186 206
CB3145	C CER SMD 68P 50V J	1	CA 075
CB3151	C CER SMD 100P 50V J	1	CA 025 072 078 083 193 202 207
CB3155	C CER SMD 150P 50V J	1	CA 080 145
CB3161	C CER SMD 270P 50V J	1	CA 066 141 146
CB3163	C CER SMD 330P 50V J	1	CA 029
CB3167	C CER SMD 470P 50V J	2	CA 034 070 073 192 200 258 423
CB3175	C CER SMD 1N0 50V J	3	CA 030 052 067 068 071 077 090 109 140
CB3175	C CER SMD 1N0 50V J	3	CA 168 211 240 241 242 243 244 245 246 247
CB3175	C CER SMD 1N0 50V J	3	CA 248 249
CC0110	C CER 150P K 500V	1	CA 097 131
CC0130	C CER 220P K 500V	1	CA 098 134
CC0170	C CER 470P K 500V	1	CA 056
CC0170	C CER 470P K 500V	1	CA 117 118
CC0190	C CER 680P K 500V	1	CA 048
CC0200	C CER 1N0 K 500V	1	CA 092 093
CC0204	C CER 1N0 K 50V	1	CA 065
CC0240	C CER 2N2 K 500V	1	CA 022 032
CC0513	C CER 3N3 S 1KV	2	CA 007 008 011 012
CC0530	C CER 4N7 S 500V	1	CA 120
CC3220	C CER SMD 1N5 10% 50V	1	CA 076
CC3280	C CER SMD 4N7 10% 50V	1	CA 031 216
CC3320	C CER SMD 10N 10% 50V	1	CA 039 050 058 100 157 166 198 219 422
CC3480	C CER SMD 10% 100N 25V	2	CA 036 037 038
CC4400	C SMD 47N K 50V	2	CA 400 410
CC4855	C SMD 100N Z 50V	3	CA 024 026 028 062 074 082 086 104 106 124
CC4855	C SMD 100N Z 50V	3	CA 136 143 152 156 160 169 172 173 175 181
CC4855	C SMD 100N Z 50V	3	CA 187 191 195 201 204 205 212 214 215 221
CC4855	C SMD 100N Z 50V	3	CA 222 224 231 232 233 234 235 251 252 253
CC4855	C SMD 100N Z 50V	3	CA 254 255 402 404 405 408 409 411
CC4855	C SMD 100N Z 50V	3	CA 059 110 501
CC4895	C SMD 470N Z 25V	3	CA 095 121 412 413
CE0083	C X2 220N M 275VAC	8	CA 003
CE0116	C Y 2N2 M 400VAC	4	CA 001 002 014 015 016 017
CE0522	C PCA MKC 100N J 63V	4	CA 163
CE2004	C IMP 100P K 1K6V	3	CA 128
CE2034	C IMP 270P K 1K5V	4	CA 021 047
CE2234	C IMP 3N3 K 1K5V	4	CA 085
CE2304	C IMP 5N6 J 1K5V	4	CA 125

Part Number	Description	PG	Item Number
CE2802	C IMP 51N J 400V	3	CA 116
CE2931	C IMP 100N J 250V	4	CA 115
CE3010	C IMP 200N J 250V	6	CA 114
CE3063	C IMP 330N J 250V	5	CA 108
CE3113	C IMP 470N J 250V	5	CA 113
CG2505	C PPR KP 1N0 J 63V	2	CA 203
CG2717	C PPR KP 10N H 63V	3	CA 027
CK0062	C PES MKT 4N7 K 250V	2	CA 096
CK0163	C PES MKT 22N K 250V	2	CA 044
CK0165	C PES MKT 22N K 630V	2	CA 018 019
CK1388	C PES MKT 10N K 250V	2	CA 041 135
CK1468	C PES MKT 22N K 250V	2	CA 087
CK1626	C PES MKT 100N K100V	2	CA 159
CK2384	C PES MKT 10N K 63V	2	CA 158 171
CK2385	C PES MKT 10N J 63V	3	CA 161
CK2464	C PES MKT 22N K 63V	2	CA 099
CK2504	C PES MKT 33N K 63V	2	CA 126 130
CK2545	C PES 47N K 63V	2	CA 064
CK2626	C PES MKT 100N K 63V	2	CA 091 129 162 174 178
CK2626	C PES MKT 100N K 63V	2	CA 155
CK2704	C PES MKT 220N K 63V	3	CA 176 177 182 183
CK2864	C PES MKT 1U0 K 50V	5	CA 103
CN0088	C ELYT 220U M 385V	18	CA 013
CN0128	C ELYT 0U47 M 160V	3	CA 089
CN0606	C ELYT 470U M 35V	5	CA 401
CN0819	C ELYT 2200U M 25V	5	CA 154
CN2017	C ELYT 1U0 M 50V	2	CA 033 185 403 420 421
CN2032	C ELYT 10U M 50V	1	CA 069 081 123 184 188 197 256
CN2037	C ELYT 10U M 160V	4	CA 111
CN2435	C ELYT 47U M 35V	2	CA 054 151 164 218
CN2469	C ELYT 47U M 200V	6	CA 042 043 045 088 133
CN2523	C ELYT 100U M 25V	3	CA 023 046 063 144 223
CN2523	C ELYT 100U M 25V	3	CA 196
CN2546	C ELYT 100UF M 100V	5	CA 153
CN2553	C ELYT 0U47F M 50V	1	CA 165 217 220 250
CN2563	C ELYT 2U2F M 50V	2	CA 049 350
CN2566	C ELYT 4U7F M 50V	2	CA 053
CN2575	C ELYT 22UF M 16V	1	CA 061 084
CN2576	C ELYT 220U M 16V	2	CA 079 406 407
CN2642	C ELYT 470U M 16V	4	CA 035 040
CN2712	C ELYT 1000U M 16V	5	CA 055 057 101 102 127
CN2914	C ELYT 4700U M 25V	7	CA 051
FJ0429	CHOKE 33UH 10%	4	LA 007
FJ0448	CHOKE 15UH	2	LA 001 003 004
FJ0484	CHOKE 4UH	3	LA 017 018
FJ0505	CHOKE 15UH 5%	2	LA 002 006 015
FJ0524	FERRITE CHOKE	3	FRA 004
FJ0725	BEAD INDUCTOR MIN IMP360HM	2	FRA 001 002 003
FJ0728	LEAD INDUCTOR 1000UH 10%	5	LA 013
FJ0729	LEAD INDUCTOR 150UH 10 %	7	LA 011
FJ0735	LEAD INDUCTOR 82UH 10% Y=5MM	7	LA 016
FJ0800	EMI/RFI CHOKE 60MH 3A(AC)	14	MA 001
FJ1809	INPUT CHOKE E30 2X9MH	13	MA 002
FM0624	FLYBACK TRAFO 64KHZ W/O FOC.UNIT	33	MA 005
FM2522	DYNAMIC FOCUS TRAFO	13	MA 009
FM2524	DRIVER TRAFO	12	MA 008
FM2542	CENTERING COIL	13	MA 006
FM2548	INPUT COIL E20/6 2,3MH	12	MA 007
FM3403	SMPS–TRAFO ETD44	19	MA 004
FU0715	FIXED LINEARITY COIL	7	LA 009
JB0046	DI 1N5408 1000V 3A DO–201	3	DA 001 002 003 004
JF0025	DI 1N4148 75V 200MA	1	DA 031 059 109 081 082 083 092 099 110 116
JF0025	DI 1N4148 75V 200MA	1	DA 096 118
JF0032	DI UF4007 1000V 1A 75N	4	DA 012 013 061 062
JF0033	DI UF5404 400V 3A 50NS	4	DA 063 065
JF0033	DI UF5404 400V 3A 50NS	4	DA 025
JF0034	DI UF5406 600V 3A 75N	9	DA 022 053
JF0072	DI BAV21 200V 250MA 50N	1	DA 015
JF0073	DI RGP10G 400V 1A 150N	4	DA 021 056 057 066 069 070 071
JF0096	DI BYV28–100 100V 3.5A 30N	7	DA 028
JF0106	DI UF2D–7000 200V 2A 50N	3	DA 026 027 054 055
JF0106	DI UF2D–7000 200V 2A 50N	3	DA 068
JF0107	DI BYV26C 600V 1A 30N	5	DA 023 024
JF0165	DI BY359 1500V 5A	13	DA 067
JF0206	DI 1N5818 30V 1A SCHOTTKY	4	DA 009
JF4003	DI BAV103 200V 250MA 50NS SOD–80	7	DA 016 029 072 101 103 104 420
JF4005	DI LL4148 75V 150MA	1	DA 005 007 011 017 018 030 041 042 043 044
JF4005	DI LL4148 75V 150MA	1	DA 045 046 047 048 049 051 052 058 060 073
JF4005	DI LL4148 75V 150MA	1	DA 074 075 076 077 078 079 080 084 085 086
JF4005	DI LL4148 75V 150MA	1	DA 087 088 089 091 093 094 095 097 098 111
JF4005	DI LL4148 75V 150MA	1	DA 112 113 114 115 117 119 120 121 122 123
JF4005	DI LL4148 75V 150MA	1	DA 421 032 064 102 105 106 107 108
JH0053	ZDI BZX83C5V6 5.6V 0.5W 5%	1	DZA 009 010
JH0064	ZDI BZX83C9V1 9.1V 0.5W 5%	3	DZA 004
JH0079	ZDI BZX83C30 30V 0.5W 5%	1	DZA 012
JH0081	ZDI ZPY 3.9 3.9V 1.3W 5%	1	DZA 002 017
JH0086	ZDI BZX83C4V7 4.7V 0.5W 5%	2	DZA 014

Part Number	Description	PG	Item Number
JH0087	ZDI BZX83C5V1 5.1V 0.5W 5%	1	DZA 007
JH4118	ZDI BZX84C12 12V 0.35W 5%	2	DZA 003 005 006 008 011 013 015 016 018
JL0062	OPTOCOUPLER CNY17F–2 5,3KV	8	ICA 002
JL0070	PHOTO MODULE FOR REM.CONT 38KHZ	12	DA 501
JM0205	TR BF423 P 250V 25MA	3	TA 011 044 084
JM0239	TR BC638 P 60V 1A	4	TA 086
JM0244	TR BF422 N 250V 25MA	2	TA 001 002 026 027 032 038 083
JM0255	TR BC637–6/–10 N 60V 1A	4	TA 008
JM0273	TR 2N5551 NPN 160V 0,6A	2	TA 053 082 049
JM0310	TR 2SC4152 1500V 0.1A	8	TA 028
JM0314	TR BU2522AF N 1500V 8A SOT199	14	TA 042
JM4105	TR BC847B N 45V 0.1A SOT23	4	TA 003 006 016 018 022 041 047 048 051 054
JM4105	TR BC847B N 45V 0.1A SOT23	4	TA 059 080 087
JM4114	TR BC857B P 45V 100MA	2	TA 004 015 017 023 046 057 058 068 071 072
JM4114	TR BC857B P 45V 100MA	2	TA 009 081
JM4116	TR PMBT2369 N 15V 200MA SOT–23	3	TA 064
JM4401	TR BCR141W 50V 0.1A (2X22K)SOT323	2	TA 007 061 062 063 065 066
JS0020	FET IRF830 N 500V 4.5A 1.5	7	TA 031
JS0026	FET IRFBC40 N 600V 6.0A TO220	10	TA 005
JS0026	FET IRFBC40 N 600V 6.0A TO220	10	TA 021
JS0027	FET IRF742 N 400V 8.3A 0R8 TO–220	12	TA 030
JS0033	FET IRFD014 N 60V 1.7A HD–1	7	TA 012 013 069
JS0051	FET IRF9540 P 100V 19A 0.2R TO220	14	TA 043
JS0055	FET IRLI520 N 100V 6.3A 0.28R	7	TA 035 036 037
JS0056	FET IRLI530 N 100V 9A 0.16R TO220	9	TA 033 034
JS0058	FET IRF9620 P 200V 1R5 3A TO220FI	10	TA 024 045
JS1006	FET BS170 N 60V 500MA	10	TA 070
JZ0005	ISOLATOR PAD 19*13*0.22MM	1	TA 005 021 024 045
JZ0005	ISOLATOR PAD 19*13*0.22MM	1	ICA 007
LM0340	IC TDA2040V AUDIO POWER AMPLIFIER	14	ICA 007
LM0455	IC LM358N DUAL OP–AMP DIL–8	11	ICA 006 028
LM0492	IC 7905AC –5V REGULATOR TO–220	9	ICA 032
LM0547	IC TDA1013B AUDIO POWER AMPL SIL9	11	ICA 030 031
LM0589	IC ICM7555IPA CMOS TIMER	14	ICA 018
LM0602	IC LM2940CT–12 +12V REGULATOR	12	ICA 003
LM0663	IC TL431 VOLTAGE REFERENCE TO–92	6	TA 014
LM0763	IC UC3842 CURRENT MODE PWM CONT.	12	ICA 001
LM0777	IC TDA8444 6–BIT OCT.DAC DIL–16	15	ICA 029
LM0779	IC 74HCT573 8XLATCH 3–STATE DIL20	7	ICA 023
LM0787	IC 74HC390 4–STAGE RIPPLE COUNTER	8	ICA 027
LM0901	IC TDA4852 HOR&VERT CONTROLLER	20	ICA 013
LM0903	IC MICROCONTROLLER 80C31 DIL–40	17	ICA 022
LM0904	IC 27C256 200NS OTP DIL–28	16	ICA 024
LM0905	IC M62352P 12–CH 8–BIT DAC DIL20	16	ICA 020
LM0906	IC 24C04A/P SERIAL EEPROM 512X8	12	ICA 021
LM0908	IC TDA4866 VERTICAL BOOSTER SIL–9	14	ICA 012
LM0909	IC LM2927 +5V LOWDR.REG TO220(5)	13	ICA 004
LM4015	IC 74HCT574SO	8	ICA 025 026
LM4016	IC 74HCT86 4X2–INPUT EX–OR SO14	6	ICA 016
LM4101	IC 4053B MUX/DEMUX ANAL.3X2–CHAN	7	ICA 010 033 034
LM4104	IC 4011B 4X2–INPUT NAND SO–14	4	ICA 015
LM4105	IC 4046B PHASE–LOCKED LOOP SO–16	6	ICA 011
LM4111	IC 4538BT	5	ICA 005 019
LM4208	IC 74HC86 2–INPUT EXCL. OR SO–14	4	ICA 017
LM4404	IC LM339 4XVOLTAGE COMP. SO–14	4	ICA 014
LM4406	IC LM324 QUAD OP–AMP SO–14	5	ICA 009
LZ0046	IC–SOCKET 28–POLE DIL	6	ICA 024
QA0099	CRYSTAL 12.0 MHZ HC–49/U	10	XTA 001
QH0068	RELAY 12V 5A/250V DPDT	13	REA 001
QK1222	ROW CONN 1X02	2	QA 016
QK1281	ROW CONN 1X02	3	QA 002
QK1287	PIN STRIP 1X04	3	QA 011
QK1294	PIN JACK (RCA) RED	4	QA 012
QK1295	PIN JACK (RCA) WHI	4	QA 013
QK1299	MINIATURE JACK 3.5MM PCB H=6.5MM	8	QA 015
QK1372	MAINS CONN MALE	8	QA 001
QK1453	ROW CONN 1X02	2	QA 007
QK1455	ROW CONN 1X06	3	QA 003
QK1587	COOLING & SUPP.PART FOR RESISTOR	1	NTCA 001
QK1587	COOLING & SUPP.PART FOR RESISTOR	1	RA 026 027
QK1599	COOLING & SUPP.PART FOR RES L12MM	1	NTCA 001
QK1633	ROW CONN 1X03	2	QA 014
QK1640	ROW CONN 1X10	3	QA 006 018
QK1687	FLEX–FOIL CONNECTOR 16–PIN	7	QA 004
QM1014	PICOFLEX ASSY BI–IDC 12–POS 400MM	10	QA 017
QT0004	SPARK GAP 2,5KV +–500V R=5,0MM	5	GA 003
QT0102	FUSEHOLDER CLIPS 5*20MM R=5,0MM	1	FA 001
QT0207	GLIMM LAMP 95V 6*12,5MM	4	GA 001 002
QT0733	FUSE R=5,0MM T 3,15A 250V IEC127	4	FA 002 003
QT0775	FUSE 5*20MM T 6,3A 250V 1500A	3	FA 001
SE2578	GROUNDING WIRE	6	
SE2588	FOCUS CABLE	6	
SE2589	FOCUS CABLE	6	
SE2590	G2 CABLE	6	
SE2641	WIRE BUNDLE IR–CONTR.	14	QA 501
SMZ039	SWITCHING MODULE	16	
UC0859	FASTENING SPRING	2	TA 021 024 033 034 045



TUNER
AJ01 2000KHC
AL02 (AM MODUL)
BEDIENTEIL/
OPERATING UNIT
PROCESSOR
UNITA' COMANDO
PROCESSORE
BDI11 12V BDI/II 0V
BDI 12V BDII/III 0V
BDII 12V BDI/III 0V
AFC EIN 0.5...5.5V ON/ACCESO
AFC 3.5V±3V 6.5V 0.5V
HEF40538T VL09
AFC-SCHALTER
AFC SWITCH
COMMUTATORE
C.A.F.
DF02
ST6367NSM1R02
BG/DK SWITCH
FM/AM SWITCH
NF ca.380mV/50kHz
L'0V BG.I.L=12V
NM01 LM317T
NM02 L4941
12V U2
5VS U5
5V U3
VL254 TDA9830
VL255 HEF40538T
NR202 CF72306
NR201 CF70200
ZR201 13.875MHz
IF
38.9_34_sw
FM_AM_sw
AF_out_Int
Bd_I
AF_Int
Kolnz
+12V
H_Fb
FBAS
AL
XR02

XR01

SIGNAL-PROCESSOR
PROCESSORE SEGNAL

DD01
TDA6362

SECAM

VD02
TDA6395

VD03
TDA4665:PAL/SECAM
TDA4662 :PAL

VERZOEGERUNGSL. (CHROMA)
DELAY LINE/RITARDO

XM01 XM02

XM03 XM04

DT01
74HC4538

DT02
74HC4538

DT03
74HC4538

NR201
CF70200

Index:	Release Date:	Project Engineer:	Signature:	
C	99/99/9999	Mr. Project Engineer		
NOKIA Consumer Electronics Salorankatu 5-7 SF-24101 Salo		Project Leader: Taisto Hynynen	Project No.: 69450976	Drawing No.: 12345678
		Title: Monitor_17_ACACIA	Date: 11/30/1995 Version: 276.379	Replacement for: -
			Sheet: 99 of 99 Scale: 1.0	PCB No.: 69450976

Part Number	Description	PG	Item Number
LS0006	**TV modul PAL BG 5.5MHZ FM Mono**		
31514516	R CARF 100R 5% 0W25 FP	1	RD 34
31514517	R CARF 4R7 5% 0W25 FP	1	RD 39,
31660015	R CARF 680R 5% 0W25	1	RL 13
31660025	R CARF 22K 5% 0W25	1	RK 43
31660026	R CARF 47K 5% 0W25	1	RM 51
31660028	R CARF 1M0 5% 0W25	1	RS 01
31510863	R FUS V 15R 15% 0W35	2	RO 33
13148203	R METF 8k25 1% 0,4W	5	RF 40
31414020	R METOX 4K7 J 2W0	2	RF 39
12825181	R SMD 68R 5% 0,125W	5	RK 51,52
12826825	R SMD 390R 5% 0,125W	5	RF 53
12826825	R SMD 390R 5% 0,125W	5	RO 34
12830095	R SMD 12k 5% 0,125W	5	RD 70
12830331	R SMD 18k 5% 0,125W	5	RF 17
12832225	R SMD 150k 5% 0,125W	5	RF 44
31425002	R SMD 100R J 0W25	1	RT 04,07
31425601	R SMD 0R J 0W25	1	W 155
31425601	R SMD 0R J 0W25	1	W 21,36,37,44,65,75,77,68 ,135,142,19,
31425601	R SMD 0R J 0W25	1	WL 02
31425612	R SMD 220R J 0W25	1	RM 33
31425614	R SMD 330R J 0W25	1	RD 71
31425615	R SMD 470R J 0W25	1	RL 31
31425622	R SMD 1K0 J 0W25	1	RD 19
31425622	R SMD 1K0 J 0W25	1	RL32
31425622	R SMD 1K0 J 0W25	1	RM 07
31425627	R SMD 3K3 5% 0W25	1	RD 74
31425630	R SMD 5K6 5% 0W25	1	RL 06
31425635	R SMD 10K 5% 0W25	1	RD 81
31425635	R SMD 10K 5% 0W25	1	RL 15
31425639	R SMD 47K 5% 0W25	1	RM 52
31425646	R SMD 100K 5% 0W25	1	RF 43
31425648	R SMD 220K 5% 0W25	1	RL 04
31425651	R SMD 1K3 J 0W25	1	RO 35
31425680	R SMD 110K J 0W25	1	RT 09
31425801	R SMD 1M0 5% 0W1	1	RL 01
31425801	R SMD 1M0 5% 0W1	1	RM 05
31425802	R SMD 0R 5% 0W1	1	W 6, ,27,30,32,39,40,55,86,134,136
31425802	R SMD 0R 5% 0W1	1	WL 13,15
31425813	R SMD 18K 5% 0W1	1	RF 30
31425813	R SMD 18K 5% 0W1	1	RM 01,02,03
31425815	R SMD 220R 5% 0W1	1	RD 56
31425815	R SMD 220R 5% 0W1	1	RM 32,31,13
31425816	R SMD 390R 5% 0W1	1	RM 21
31425820	R SMD 1K0 5% 0W1	1	RD 24,80,
31425820	R SMD 1K0 5% 0W1	1	RF 47,49,55,
31425820	R SMD 1K0 5% 0W1	1	RK 40
31425820	R SMD 1K0 5% 0W1	1	RT 01
31425824	R SMD 4K7 5% 0W1	1	RF 13,28,31,50,51,65,
31425824	R SMD 4K7 5% 0W1	1	RL 22,10
31425824	R SMD 4K7 5% 0W1	1	RM 14
31425828	R SMD 2K2 5% 0W1	1	RD 73
31425828	R SMD 2K2 5% 0W1	1	RF 24,37,54
31425828	R SMD 2K2 5% 0W1	1	RL 34,09
31425828	R SMD 2K2 5% 0W1	1	RM 10
31425829	R SMD 3K3 5% 0W1	1	RD 08
31425829	R SMD 3K3 5% 0W1	1	RF 14,15
31425829	R SMD 3K3 5% 0W1	1	RL 02
31425830	R SMD 3K9 5% 0W1	1	RM 06
31425832	R SMD 8K2 5% 0W1	1	RT 03
31425833	R SMD 10K 5% 0W1	1	RD 06,63,
31425833	R SMD 10K 5% 0W1	1	RF 04,16,20,21,22,23,25,26,27,29,32,
31425833	R SMD 10K 5% 0W1	1	RL 07,08,12,
31425833	R SMD 10K 5% 0W1	1	RM 11,12,50
31425833	R SMD 10K 5% 0W1	1	RT 02
31425834	R SMD 12K 5% 0W1	1	RF 48
31425835	R SMD 15K 5% 0W1	1	RK 42
31425836	R SMD 47K 5% 0W1	1	RD 02
31425836	R SMD 47K 5% 0W1	1	RL 42
31425837	R SMD 22K 5% 0W1	1	RF 07,08,09,10,11,12,63,
31425837	R SMD 22K 5% 0W1	1	RL 14,
31425837	R SMD 22K 5% 0W1	1	RM 04,08,09
31425837	R SMD 22K 5% 0W1	1	RT 06
31425840	R SMD 33K 5% 0W1	1	RL 11
31425841	R SMD 39K 5% 0W1	1	RF 18
31425844	R SMD 100K 5% 0W1	1	RD 01
31425844	R SMD 100K 5% 0W1	1	RF 52
31425844	R SMD 100K 5% 0W1	1	RL 05
31425851	R SMD 15R 5% 0W1	1	RD 35
31425852	R SMD 100R 5% 0W1	1	RD 36
31425852	R SMD 100R 5% 0W1	1	RF 38
31425855	R SMD 270R 5% 0W1	1	RL 40
31425856	R SMD 300R 5% 0W1	1	RL 33
31425857	R SMD 330R 5% 0W1	1	RM 20
31425860	R SMD 680R 5% 0W1	1	RD 20,21,22,65,66,67
31425860	R SMD 680R 5% 0W1	1	RF 46
31425872	R SMD 6K2 J 0W10	1	RD 64
31425872	R SMD 6K2 J 0W10	1	RF 45

Part Number	Description	PG	Item Number
31425876	R SMD 68R 5% 0W1	2	RD 69
31425885	R SMD 820K 5% 0W1	1	RK 41
31426211	R SMD 2K0 J 0W25	1	RM 17
31426211	R SMD 2K0 J 0W25	1	RT 08
31490003	R SMD 2K00 G 0W10	1	RT 05
31490006	R SMD 240R F 0W10	1	RM 15
31490057	R SMD 10K0 1% 0W1	1	RT 34
31490076	R SMD 61R9 F 0W10	1	RM 16
31230005	R TRIM HOR 1K0 20% 0W1	3	RM 22,23
32125507	C CER SMD 33P 5% 50V	1	CF 06
32125508	C CER SMD 47P 5% 50V	1	CF ,16
32125508	C CER SMD 47P 5% 50V	1	CL 11
32125510	C CER SMD 15P 5% 50V	1	CD 43,44,45
32125510	C CER SMD 15P 5% 50V	1	CF 09,11,08
32125515	C CER SMD 100P 5% 50V	1	CF 13,14,15
32125520	C CER SMD 18P 5% 50V	1	CF 10
32125529	C CER SMD 270P 5% 50V	1	CD 37
32135408	C CER SMD 10P D 50V	1	CL 08
32190006	C CER SMD 62P J 50V	1	CL 07
32535710	C CER SMD 47N Z 50V	1	CD 01,02,52
32535718	C CER SMD 22N Z 50V	1	CD ,17,20,21,22,23,33,
32535718	C CER SMD 22N Z 50V	1	CL 10
32535901	C CER SMD 1N0 10% 50V	1	CF 19
32535918	C CER SMD 10N 10% 50V	1	CF 27
32536203	C CER SMD 1N0 10% 50V	1	CD 51
32536203	C CER SMD 1N0 10% 50V	1	CL 17
32536207	C CER SMD 3N3 K 50V	1	CA 12
32536210	C CER SMD 4N7 M 50V	1	CD 06
32536210	C CER SMD 4N7 M 50V	1	CK 42
32536213	C CER SMD 10N K 50V	1	CK 40
32536213	C CER SMD 10N K 50V	1	CM 50
32790009	C CER SMD 22N 20% 50V	1	CD 19
32790018	C CER SMD 100N K 25V	1	CD 08,09,10,25,27,36
32790018	C CER SMD 100N K 25V	1	CF 21,22,23,24,25,26,28
32790018	C CER SMD 100N K 25V	1	CJ 02,03,04
32790018	C CER SMD 100N K 25V	1	CM 02,03,05,07,08,09
32790018	C CER SMD 100N K 25V	1	CT 08,10,01,04
24030702	C MKT 10n 10% 63V	6	CT 06,11
33127106	C MKT 100N 10% 63V	2	CD 05,12
33127106	C MKT 100N 10% 63V	2	CF 29,07
33127108	C MKT 220N 10% 63V	3	CF 18
33127123	C MKT 470N 10% 63V	3	CF 17
33622914	C MKP 1N0 H 100V	2	CT 03,05,09
34221242	C ELYT 470U M 10V	3	CD 30
34229675	C ELYT 1U0 M 100V	1	CF 20
34229675	C ELYT 1U0 M 100V	1	CK 41
34540009	C ELYT 22U 20% 16V	2	CD 24,
34540009	C ELYT 22U 20% 16V	2	CD 32
34540009	C ELYT 22U 20% 16V	2	CO 39
34540020	C ELYT 100U 20% 25V	2	CF 03,
34540020	C ELYT 100U 20% 25V	2	CJ 01
34540020	C ELYT 100U 20% 25V	2	CL 01
34540022	C ELYT 1U0 20% 63V	2	CD 28
34540024	C ELYT 4U7 20% 63V	2	CA 01,
34540024	C ELYT 4U7 20% 63V	2	CD ,42,50
34540024	C ELYT 4U7 20% 63V	2	CM 51
34540025	C ELYT 10U 20% 63V	2	CO 38
34540027	C ELYT 10U 20% 35V	2	CM 06,10,
34540027	C ELYT 10U 20% 35V	2	CT 02,07
34421050	C TANT SMD 1U0 M 16V	3	CD 26,39,55
34421050	C TANT SMD 1U0 M 16V	3	CM 12,01
36120750	TR NPN SMD BF840 40V 25mA	3	VF 06
36145312	TR NPN SMD BC847B 45V 100mA	2	VD 12,13,14,
36145312	TR NPN SMD BC847B 45V 100mA	2	VL 01,06,11,
36145312	TR NPN SMD BC847B 45V 100mA	2	VM 01,02,03,04,05,50,51,
36145312	TR NPN SMD BC847B 45V 100mA	2	VT 01
36145423	TR PNP SMD BC858C 30V 100mA	2	VD 15
36145423	TR PNP SMD BC858C 30V 100mA	2	VF 10,03,04,05
36145423	TR PNP SMD BC858C 30V 100mA	2	VL 08
36147138	TR NPN BC337-25 45V 500mA TO9	2	VM 06
36147138	TR NPN BC337-25 45V 500mA TO9	2	VO 33
36370005	N-FET BUZ70 60V 12A	10	VM 08
36420002	DI 1N4148 75V 200mA DO35	1	VD 07,08,09,10
36420002	DI 1N4148 75V 200mA DO35	1	VL 02,10
36490002	DI SMD LS4148 75V 200mA	1	VF 09,11,
36490002	DI SMD LS4148 75V 200mA	1	VJ 01
36490002	DI SMD LS4148 75V 200mA	1	VT 02
36532216	Z DI SMD BZX84C 3V9 5% SOT23	3	VF 12
36770013	Z DI ZTK33AB 33V 10% DO35	6	VF 07
37651369	IC VIDEO TDA4662-V2 DIL16	17	
37681815	IC V-REG LM317T ADJ. 1.5A TO220	8	NM 01
37681840	IC V-REG LM2940CT 5V 1A TO220	9	NM 02
37715194	IC LOGIC SMD 4053B SO16	6	VL 09
37810008	IC LOGIC SMD 74HC4538 SO16	7	DT 01,02,03
37850070	IC uP ST6377 NMP03-R01 SDIP42	21	DF 02
41003011	ZENER BZX83C 5V1 5% 400mW	5	VD 18
41562845	IC SOCKET SDIL42	5	ZUDF 02

Part Number	Description	PG	Item Number
41710004	CONNECTOR HEADER 12-PIN	4	XA
41710005	CONNECTOR HEADER 10-PIN	4	XH
43004939	IC TDA 8362N3	25	DD 01
45530002	COIL ADJ 250nH	7	ZL 01
45558419	EMIFIL 4N7 M 1.0A	5	ZF 03
45558441	FIL CER SFE 5.5 MB TF21	6	ZL 02
45558583	SAW FILTER OFW G1961M B/G SIP5K	15	ZL 07
45558702	FIL CER TPS 5.5 MD TF21	5	ZL 05
45572075	COIL 15uH J 330mA	4	ZL 09,04
45572076	COIL 56uH J 190mA	4	ZF 02
45640007	COIL SMD 4.7uH K 250mA	3	LJ 01,03
45710004	QUARTZ 4.433619MHz HC49/U	11	ZD 01
45710009	QUARTZ 8.192 MHz HC49/U	11	ZF 01
46541503	EMI SUPPRES BEAD	3	LD 01
54041342	MODULE SUPPORT	4	
58231008	TUNER SK1190N	37	AJ 01
73190603	ROW CONNECTOR 3-PIN	3	XF
73190612	CONNECTOR ROW 12-PIN	4	XR 01
84830260	HEATSINK ACACIA	6	AH 01
84830260	HEATSINK ACACIA	6	AO 01
96010177	FLAT CABLE 6-PIN L=140	6	XM01-XM02
96010178	FLAT CABLE 4-PIN L=240	6	XM03-XM04
TX4095	VT DECODER 58544095 ACACIA	32	
TX4095	**VT DECODER 58544095 ACACIA**		
12826337	R SMD 180R 5% 0,125W	5	RR 227,228
12832225	R SMD 150k 5% 0,125W	5	RR 204
31425002	R SMD 100R J 0W25	1	RR 212,213
31425601	R SMD 0R J 0W25	1	WR 203,206,207,209,210,211,212,213
31425646	R SMD 100K 5% 0W25	1	RR 270
31425802	R SMD 0R 5% 0W1	1	WR 201,202,204,205,208,214
31425817	R SMD 470R 5% 0W1	1	RR 280,281
31425820	R SMD 1K0 5% 0W1	1	RR 201,274
31425828	R SMD 2K2 5% 0W1	1	RR 235,236,248,251
31425833	R SMD 10K 5% 0W1	1	RR 202,273,275
31425836	R SMD 47K 5% 0W1	1	RR 261,272
31425837	R SMD 22K 5% 0W1	1	RR 277,278
31425839	R SMD 27K 5% 0W1	1	RR 252
31425840	R SMD 33K 5% 0W1	1	RR 260,262
31425842	R SMD 56K 5% 0W1	1	RR 203
31425844	R SMD 100K 5% 0W1	1	RR 253,279
31425852	R SMD 100R 5% 0W1	1	RR 271,276
31425854	R SMD 180R 5% 0W1	1	RR 226
31425857	R SMD 330R 5% 0W1	1	RR 225
32125510	C CER SMD 15P 5% 50V	1	CR 205
32125512	C CER SMD 39P 5% 50V	1	CR 204
32125513	C CER SMD 220P 5% 50V	1	CR 207,208
32536212	C CER SMD 10N 20% 50V	1	CR 202,206,213
32790018	C CER SMD 100N K 25V	1	CR 201,203,218,219,220,271
34540009	C ELYT 22U 20% 16V	2	CR 223,226
34540018	C ELYT 220U 20% 10V	2	CR 270
34540022	C ELYT 1U0 20% 63V	2	CR 250
34540024	C ELYT 4U7 20% 63V	2	CR 261
36145312	TR NPN SMD BC847B 45V 100mA	2	VR 250,270,272,273,274
36145412	TR PNP SMD BC857B 45V 100mA	2	VR 218
36490002	DI SMD LS4148 75V 200mA	1	VR 249,271
37791571	IC VIDEO CF72306 DIL20	21	NR202
37850011	IC VIDEO CF70200 DIL28	30	NR201
41458125	MODULE CONNECTOR 12-PIN	6	XR02
44213107	QUARTZ 13.875 MHz HC49/U	10	ZR201
45558419	EMIFIL 4N7 M 1.0A	5	ZR 202,203
LS0007	**TV modul PAL/SECAM BG/I/L**		
12825181	R SMD 68R 5% 0,125W	5	RK 51,52
12826825	R SMD 390R 5% 0,125W	5	RF 53
12826825	R SMD 390R 5% 0,125W	5	RO 34
12830095	R SMD 12k 5% 0,125W	5	RD 70
12830331	R SMD 18k 5% 0,125W	5	RF 17
12832225	R SMD 150k 5% 0,125W	5	RF 44
13148203	R METF 8k25 1% 0,4W	5	RF 40
24030702	C MKT 10n 10% 63V	6	CT 06,11
31230005	R TRIM HOR 1K0 20% 0W1	3	RM 22,23
31414020	R METOX 4K7 J 2W0	2	RF 39
31425002	R SMD 100R J 0W25	1	RT 04,07
31425601	R SMD 0R J 0W25	1	W 21,36,37,44,65,75,77,103,135,142,
31425601	R SMD 0R J 0W25	1	W 155,19,68
31425612	R SMD 220R J 0W25	1	RM 33
31425614	R SMD 330R J 0W25	1	RD 71
31425615	R SMD 470R J 0W25	1	RL 31
31425622	R SMD 1K0 J 0W25	1	RM 07
31425622	R SMD 1K0 J 0W25	1	RD 19,23
31425622	R SMD 1K0 J 0W25	1	RL 25,32
31425627	R SMD 3K3 5% 0W25	1	RD 74
31425630	R SMD 5K6 5% 0W25	1	RL 06
31425635	R SMD 10K 5% 0W25	1	RD 81
31425635	R SMD 10K 5% 0W25	1	RL 15

Part Number	Description	PG	Item Number
31425639	R SMD 47K 5% 0W25	1	RM 52
31425646	R SMD 100K 5% 0W25	1	RF 43
31425648	R SMD 220K 5% 0W25	1	RL 04
31425651	R SMD 1K3 J 0W25	1	RO 35
31425680	R SMD 110K J 0W25	1	RT 09
31425801	R SMD 1M0 5% 0W1	1	RL 01
31425801	R SMD 1M0 5% 0W1	1	RM 05
31425802	R SMD 0R 5% 0W1	1	W 6,12,27,30,32,39,40,55,86,134,136
31425802	R SMD 0R 5% 0W1	1	WD 02
31425802	R SMD 0R 5% 0W1	1	WL 13,15
31425813	R SMD 18K 5% 0W1	1	RF 30
31425813	R SMD 18K 5% 0W1	1	RM 01,02,03
31425815	R SMD 220R 5% 0W1	1	RM 32,13,31
31425815	R SMD 220R 5% 0W1	1	RD 56
31425815	R SMD 220R 5% 0W1	1	RL 33
31425816	R SMD 390R 5% 0W1	1	RM 21
31425820	R SMD 1K0 5% 0W1	1	RD 24,80,
31425820	R SMD 1K0 5% 0W1	1	RF 47,49,55,
31425820	R SMD 1K0 5% 0W1	1	RK 40
31425820	R SMD 1K0 5% 0W1	1	RT 01
31425824	R SMD 4K7 5% 0W1	1	RF 13,28,31,50,51,65,
31425824	R SMD 4K7 5% 0W1	1	RL 22,
31425824	R SMD 4K7 5% 0W1	1	RM 14
31425825	R SMD 5K6 5% 0W1	1	RL 20,21
31425827	R SMD 1K8 5% 0W1	1	RL 27,28,39,40
31425828	R SMD 2K2 5% 0W1	1	RL 34,09
31425828	R SMD 2K2 5% 0W1	1	RD 73
31425828	R SMD 2K2 5% 0W1	1	RF 24,37,54
31425828	R SMD 2K2 5% 0W1	1	RM 10
31425829	R SMD 3K3 5% 0W1	1	RD 08
31425829	R SMD 3K3 5% 0W1	1	RF 14,15
31425829	R SMD 3K3 5% 0W1	1	RL 02
31425830	R SMD 3K9 5% 0W1	1	RM 06
31425832	R SMD 8K2 5% 0W1	1	RT 03
31425833	R SMD 10K 5% 0W1	1	RM 50,11,12
31425833	R SMD 10K 5% 0W1	1	RT 02
31425833	R SMD 10K 5% 0W1	1	RD 06,63,
31425833	R SMD 10K 5% 0W1	1	RF 04,16,20,21,22,23,25,26,27,29,32,59
31425833	R SMD 10K 5% 0W1	1	RL 07,08,12
31425834	R SMD 12K 5% 0W1	1	RF 48
31425834	R SMD 12K 5% 0W1	1	RL 10
31425835	R SMD 15K 5% 0W1	1	RK 42
31425836	R SMD 47K 5% 0W1	1	RD 02
31425836	R SMD 47K 5% 0W1	1	RF 61
31425836	R SMD 47K 5% 0W1	1	RL 42
31425837	R SMD 22K 5% 0W1	1	RM 08,09,04
31425837	R SMD 22K 5% 0W1	1	RT 06
31425837	R SMD 22K 5% 0W1	1	RF 07,08,09,10,11,12,63
31425837	R SMD 22K 5% 0W1	1	RL 14,98
31425840	R SMD 33K 5% 0W1	1	RL 11
31425841	R SMD 39K 5% 0W1	1	RF 18
31425844	R SMD 100K 5% 0W1	1	RD 01
31425844	R SMD 100K 5% 0W1	1	RF 52
31425844	R SMD 100K 5% 0W1	1	RL 03,05
31425851	R SMD 15R 5% 0W1	1	RD 35
31425852	R SMD 100R 5% 0W1	1	RD 36
31425852	R SMD 100R 5% 0W1	1	RF 38
31425856	R SMD 300R 5% 0W1	1	RL 29
31425857	R SMD 330R 5% 0W1	1	RM 20
31425860	R SMD 680R 5% 0W1	1	RF 46
31425860	R SMD 680R 5% 0W1	1	RD 20,21,22,65,66,67
31425872	R SMD 6K2 J 0W10	1	RD 64
31425872	R SMD 6K2 J 0W10	1	RF 45
31425876	R SMD 68R 5% 0W1	2	RD 69
31425885	R SMD 820K 5% 0W1	1	RK 41
31426211	R SMD 2K0 J 0W25	1	RM 17
31426211	R SMD 2K0 J 0W25	1	RT 08
31490003	R SMD 2K00 G 0W10	1	RT 05
31490006	R SMD 240R F 0W10	1	RM 15
31490057	R SMD 10K0 1% 0W1	1	RT 34
31490076	R SMD 61R9 F 0W10	1	RM 16
31510863	R FUS V 15R 15% 0W35	2	RO 33
31514516	R CARF 100R 5% 0W25 FP	1	RD 34
31514517	R CARF 4R7 5% 0W25 FP	1	RD 38,39
31660015	R CARF 680R 5% 0W25	1	RL 13
31660025	R CARF 22K 5% 0W25	1	RK 43
31660026	R CARF 47K 5% 0W25	1	RM 51
31660028	R CARF 1M0 5% 0W25	1	RS 01
31660031	R CARF 4K7 5% 0W25	1	RF 60
32125507	C CER SMD 33P 5% 50V	1	CF 06
32125508	C CER SMD 47P 5% 50V	1	CF ,16
32125508	C CER SMD 47P 5% 50V	1	CL 11
32125508	C CER SMD 47P 5% 50V	1	CM 11
32125510	C CER SMD 15P 5% 50V	1	CF 09,11,08
32125510	C CER SMD 15P 5% 50V	1	CD 43,44,45
32125515	C CER SMD 100P 5% 50V	1	CF 13,14,15
32125520	C CER SMD 18P 5% 50V	1	CF 10
32125529	C CER SMD 270P 5% 50V	1	CD 37

Part Number	Description	PG	Item Number
32125531	C CER SMD 82P 5% 50V	1	CL 06
32135412	C CER SMD 27P J 50V	1	CL 14
32190006	C CER SMD 62P J 50V	1	CL 07
32535710	C CER SMD 47N Z 50V	1	CD 01,02,52
32535718	C CER SMD 22N Z 50V	1	CD 13,17,20,21,22,23,33,
32535718	C CER SMD 22N Z 50V	1	CL 09,10,15,16
32535901	C CER SMD 1N0 10% 50V	1	CF 19
32535918	C CER SMD 10N 10% 50V	1	CF 27
32536203	C CER SMD 1N0 10% 50V	1	CD 51
32536203	C CER SMD 1N0 10% 50V	1	CL 17
32536207	C CER SMD 3N3 K 50V	1	CA 12
32536210	C CER SMD 4N7 M 50V	1	CD 06
32536210	C CER SMD 4N7 M 50V	1	CK 42
32536213	C CER SMD 10N K 50V	1	CK 40
32536213	C CER SMD 10N K 50V	1	CM 50
32790009	C CER SMD 22N 20% 50V	1	CD 19
32790018	C CER SMD 100N K 25V	1	CT 08,10,01,04
32790018	C CER SMD 100N K 25V	1	CD 08,09,10,25,27,36,
32790018	C CER SMD 100N K 25V	1	CF 21,22,23,24,25,26,28
32790018	C CER SMD 100N K 25V	1	CJ 02,03,04
32790018	C CER SMD 100N K 25V	1	CM 02,03,05,07,08,09
33127106	C MKT 100N 10% 63V	2	CD 05,12,15,
33127106	C MKT 100N 10% 63V	2	CF 07,29
33127108	C MKT 220N 10% 63V	3	CD 16
33127108	C MKT 220N 10% 63V	3	CF 18
33127123	C MKT 470N 10% 63V	3	CF 17
33622914	C MKP 1N0 H 100V	2	CT 03,05,09
34150001	C TRIM 2.0/10PF 250V	5	CL 05
34221242	C ELYT 470U M 10V	3	CD 30
34227929	C ELYT 2U2 M 100V	1	CA 13
34229675	C ELYT 1U0 M 100V	1	CK 41
34229675	C ELYT 1U0 M 100V	1	CF 20
34421050	C TANT SMD 1U0 M 16V	3	CM 12,01
34421050	C TANT SMD 1U0 M 16V	3	CD 26,39,55
34540009	C ELYT 22U 20% 16V	2	CD 32,14
34540009	C ELYT 22U 20% 16V	2	CD ,24,
34540009	C ELYT 22U 20% 16V	2	CO 39
34540020	C ELYT 100U 20% 25V	2	CF 03,
34540020	C ELYT 100U 20% 25V	2	CJ 01
34540020	C ELYT 100U 20% 25V	2	CL 01
34540024	C ELYT 4U7 20% 63V	2	CD 28,42,50
34540024	C ELYT 4U7 20% 63V	2	CA 01,
34540024	C ELYT 4U7 20% 63V	2	CM 51
34540025	C ELYT 10U 20% 63V	2	CO 38
34540027	C ELYT 10U 20% 35V	2	CM 06,10,
34540027	C ELYT 10U 20% 35V	2	CT 02,07
36120750	TR NPN SMD BF840 40V 25mA	3	VF 06
36145312	TR NPN SMD BC847B 45V 100mA	2	VF 16
36145312	TR NPN SMD BC847B 45V 100mA	2	VD 12,13,14,
36145312	TR NPN SMD BC847B 45V 100mA	2	VL 01,06,11,
36145312	TR NPN SMD BC847B 45V 100mA	2	VM 01,02,03,04,05,50,51,
36145312	TR NPN SMD BC847B 45V 100mA	2	VT 01
36145423	TR PNP SMD BC858C 30V 100mA	2	VF 10,03,04,05
36145423	TR PNP SMD BC858C 30V 100mA	2	VL 08
36145423	TR PNP SMD BC858C 30V 100mA	2	VD 15
36147138	TR NPN BC337-25 45V 500mA TO9	2	VM 06
36147138	TR NPN BC337-25 45V 500mA TO9	2	VO 33
36370005	N-FET BUZ70 60V 12A	10	VM 08
36420002	DI 1N4148 75V 200mA DO35	1	VL 02,10
36420002	DI 1N4148 75V 200mA DO35	1	VD 07,08,09,10
36490002	DI SMD LS4148 75V 200mA	1	VF 09,11,
36490002	DI SMD LS4148 75V 200mA	1	VJ 01
36490002	DI SMD LS4148 75V 200mA	1	VT 02
36532216	Z DI SMD BZX84C 3V9 5% SOT23	3	VF 12
36560420	DI SMD BA782 35V	2	VL 04,05,07
36770013	Z DI ZTK33AB 33V 10% DO35	6	VF 07
37410008	IC VIDEO TDA4665-V3 DIL16	14	VD 03
37440030	IC VIDEO TDA8395-N2 DIL16	22	VD 02
37681815	IC V-REG LM317T ADJ. 1.5A TO220	8	NM 01
37681840	IC V-REG LM2940CT 5V 1A TO220	9	NM 02
37715194	IC LOGIC SMD 4053B SO16	6	VL 09
37810008	IC LOGIC SMD 74HC4538 SO16	7	DT 01,02,03
37850070	IC uP ST6377 NMP03-R01 SDIP42	21	DF 02
41003011	ZENER BZX83C 5V1 5% 400mW	5	VD 18
41006107	SMD-DIODI BB 619 SOD-123	5	VL 03
41562845	IC SOCKET SDIL42	5	ZUDF 02
41710004	CONNECTOR HEADER 12-PIN	4	XA
41710005	CONNECTOR HEADER 10-PIN	4	XH
43004939	IC TDA 8362N3	25	DD 01
45530002	COIL ADJ 250nH	7	ZL 01
45558419	EMIFIL 4N7 M 1.0A	5	ZF 03
45558441	FIL CER SFE 5.5 MB TF21	6	ZL 02
45558444	FIL CER SFE 6.0 MB TF21	5	ZL 03
45558592	SAW FILTER OFW G1965M B/G SIP5K	14	ZL 07
45558702	FIL CER TPS 5.5 MD TF21	5	ZL 05
45571641	COIL 12uH J 630mA	4	ZL 04
45572075	COIL 15uH J 330mA	4	ZL 09,10
45572076	COIL 56uH J 190mA	4	ZF 02

Part Number	Description	PG	Item Number
45640007	COIL SMD 4.7uH K 250mA	3	LJ 01,03
45710004	QUARTZ 4.433619MHz HC49/U	11	ZD 01
45710009	QUARTZ 8.192 MHz HC49/U	11	ZF 01
45760003	FIL CER TPWA 6/6.5 MHZ	10	ZL 06
46541503	EMI SUPPRES BEAD	3	LD 01
54041342	MODULE SUPPORT	4	
58231008	TUNER SK1190N	37	AJ 01
73190603	ROW CONNECTOR 3-PIN	3	XF
73190612	CONNECTOR ROW 12-PIN	4	XR 01
73190614	CONNECTOR ROW 14-PIN	4	AL 02
84830260	HEATSINK ACACIA	6	AH 01
84830260	HEATSINK ACACIA	6	AO 01
96010177	FLAT CABLE 6-PIN L=140	6	XM01-XM02
96010178	FLAT CABLE 4-PIN L=240	6	XM03-XM04
LL2095	IF BOARD 58252095 ACACIA	21	
TX4095	VT DECODER 58544095 ACACIA	32	
LL2095	**IF BOARD 58252095 ACACIA**		
31230004	R TRIM HOR 22K 30% 0W1	3	RL 273
31425002	R SMD 100R J 0W25	1	RL 272
31425601	R SMD 0R J 0W25	1	WL 250,251,252,253
31425622	R SMD 1K0 J 0W25	1	RL 256
31425625	R SMD 2K2 J 0W25	1	RL 296
31425635	R SMD 10K 5% 0W25	1	RL 270
31425639	R SMD 47K 5% 0W25	1	RL 261
31425802	R SMD 0R 5% 0W1	1	WL 254,255
31425803	R SMD 2M2 J 0W10	1	RL 281
31425817	R SMD 470R 5% 0W1	1	RL 251
31425820	R SMD 1K0 5% 0W1	1	RL 280,285
31425824	R SMD 4K7 5% 0W1	1	RL 274,282,283
31425826	R SMD 1K5 5% 0W1	1	RL 290
31425828	R SMD 2K2 5% 0W1	1	RL 258
31425829	R SMD 3K3 5% 0W1	1	RL 291,295
31425833	R SMD 10K 5% 0W1	1	RL 252,260,286
31425836	R SMD 47K 5% 0W1	1	RL 263,264,287,288,294
31425837	R SMD 22K 5% 0W1	1	RL 269
31425844	R SMD 100K 5% 0W1	1	RL 254,255,257,262,284,289,293,297
31425852	R SMD 100R 5% 0W1	1	RL 253
31425860	R SMD 680R 5% 0W1	1	RL 259,292
32125505	C CER SMD 4P5 C 50V	1	CL 251
32125513	C CER SMD 220P 5% 50V	1	CL 280
32125520	C CER SMD 18P 5% 50V	1	CL 252
32125521	C CER SMD 22P 5% 50V	1	CL 254
32125525	C CER SMD 0P5 C 50V	1	CL 253
32190013	C CER SMD 470P 5% 50V	1	CL 283
32525705	C CER SMD 22N M 25V	1	CL 255,256,257,259,264,267,268
32535920	C CER SMD 100N 10% 50V	1	CL 262,263
32536212	C CER SMD 10N 20% 50V	1	CL 281,282
32790018	C CER SMD 100N K 25V	1	CL 284,285,286
34540009	C ELYT 22U 20% 16V	2	CL 258,266
34540024	C ELYT 4U7 20% 63V	2	CL 260,261
36145312	TR NPN SMD BC847B 45V 100mA	2	VL 257,258,281,283,284
36145423	TR PNP SMD BC858C 30V 100mA	2	VL 256,280,285
36490002	DI SMD LS4148 75V 200mA	1	VL 282
36531636	Z DI SMD ZMM3.9 3V9 5% SOD80	2	VL 259
36531637	Z DI SMD ZMM8.2 8V2 5% SOD80	2	VL 253
37611667	IC AUDIO TDA9830-V1 DIL16	18	VL 254
37715194	IC LOGIC SMD 4053B SO16	6	VL 255
41006107	SMD-DIODI BB 619 SOD-123	5	VL 251,252
41458126	MODULE CONNECTOR 14-PIN	7	AL
45530012	COIL ADJ 400nH	5	ZL 252
45530013	COIL ADJ 400nH	5	ZL 251
LS0008	**TV modul PAL/SECAM BG/DK**		
31514516	R CARF 100R 5% 0W25 FP	1	RD 34
31514517	R CARF 4R7 5% 0W25 FP	1	RD 39,38
31660015	R CARF 680R 5% 0W25	1	RL 13
31660025	R CARF 22K 5% 0W25	1	RK 43
31660026	R CARF 47K 5% 0W25	1	RM 51
31660028	R CARF 1M0 5% 0W25	1	RS 01
31510863	R FUS V 15R 15% 0W35	2	RO 33
13148203	R METF 8k25 1% 0,4W	5	RF 40
31414020	R METOX 4K7 J 2W0	2	RF 39
12825181	R SMD 68R 5% 0,125W	5	RK 51,52
12826825	R SMD 390R 5% 0,125W	5	RF 53
12826825	R SMD 390R 5% 0,125W	5	RO 34
12830095	R SMD 12k 5% 0,125W	5	RD 70
12830331	R SMD 18k 5% 0,125W	5	RF 17
12832225	R SMD 150k 5% 0,125W	5	RF 44
31425002	R SMD 100R J 0W25	1	RT 04,07
31425601	R SMD 0R J 0W25	1	W 21,36,37,44,65,75,77,103,135,142,19
31425601	R SMD 0R J 0W25	1	W 68,155
31425612	R SMD 220R J 0W25	1	RM 33
31425614	R SMD 330R J 0W25	1	RD 71
31425615	R SMD 470R J 0W25	1	RL 31
31425622	R SMD 1K0 J 0W25	1	RM 07
31425622	R SMD 1K0 J 0W25	1	RD 19,23
31425622	R SMD 1K0 J 0W25	1	RL 25,32

Part Number	Description	PG	Item Number
31425627	R SMD 3K3 5% 0W25	1	RD 74
31425630	R SMD 5K6 5% 0W25	1	RL 06
31425635	R SMD 10K 5% 0W25	1	RD 81
31425635	R SMD 10K 5% 0W25	1	RL 15
31425639	R SMD 47K 5% 0W25	1	RM 52
31425646	R SMD 100K 5% 0W25	1	RF 43
31425648	R SMD 220K 5% 0W25	1	RL 04
31425651	R SMD 1K3 J 0W25	1	RO 35
31425680	R SMD 110K J 0W25	1	RT 09
31425801	R SMD 1M0 5% 0W1	1	RL 01
31425801	R SMD 1M0 5% 0W1	1	RM 05
31425802	R SMD 0R 5% 0W1	1	W 6,12,27,30,32,39,40,55,86,134,136
31425802	R SMD 0R 5% 0W1	1	WL 13,15
31425813	R SMD 18K 5% 0W1	1	RF 30
31425813	R SMD 18K 5% 0W1	1	RM 01,02,03
31425815	R SMD 220R 5% 0W1	1	RM 32,31,13
31425815	R SMD 220R 5% 0W1	1	RD 56
31425815	R SMD 220R 5% 0W1	1	RL 33
31425816	R SMD 390R 5% 0W1	1	RM 21
31425820	R SMD 1K0 5% 0W1	1	RD 24,80,
31425820	R SMD 1K0 5% 0W1	1	RF 47,49,55,
31425820	R SMD 1K0 5% 0W1	1	RK 40
31425820	R SMD 1K0 5% 0W1	1	RM 10
31425820	R SMD 1K0 5% 0W1	1	RT 01
31425824	R SMD 4K7 5% 0W1	1	RF 13,28,31,50,51,65,
31425824	R SMD 4K7 5% 0W1	1	RL 22,10
31425824	R SMD 4K7 5% 0W1	1	RM 14
31425827	R SMD 1K8 5% 0W1	1	RL 27,28,39,40
31425828	R SMD 2K2 5% 0W1	1	RL 34,09
31425828	R SMD 2K2 5% 0W1	1	RD 73
31425828	R SMD 2K2 5% 0W1	1	RF 24,37,54
31425829	R SMD 3K3 5% 0W1	1	RD 08
31425829	R SMD 3K3 5% 0W1	1	RF 14,15
31425829	R SMD 3K3 5% 0W1	1	RL 02
31425830	R SMD 3K9 5% 0W1	1	RM 06
31425832	R SMD 8K2 5% 0W1	1	RT 03
31425833	R SMD 10K 5% 0W1	1	RD 06,63,
31425833	R SMD 10K 5% 0W1	1	RF 04,16,20,21,22,23,25,26,27,29,32,
31425833	R SMD 10K 5% 0W1	1	RL 07,08,12,
31425833	R SMD 10K 5% 0W1	1	RM 11,12,50
31425833	R SMD 10K 5% 0W1	1	RT 02
31425834	R SMD 12K 5% 0W1	1	RF 48
31425835	R SMD 15K 5% 0W1	1	RK 42
31425836	R SMD 47K 5% 0W1	1	RD 02
31425836	R SMD 47K 5% 0W1	1	RL 42
31425837	R SMD 22K 5% 0W1	1	RF 07,08,09,10,11,12,63,
31425837	R SMD 22K 5% 0W1	1	RL 14,98
31425837	R SMD 22K 5% 0W1	1	RM 04,08,09
31425837	R SMD 22K 5% 0W1	1	RT 06
31425840	R SMD 33K 5% 0W1	1	RL 11
31425841	R SMD 39K 5% 0W1	1	RF 18
31425844	R SMD 100K 5% 0W1	1	RD 01
31425844	R SMD 100K 5% 0W1	1	RF 52
31425844	R SMD 100K 5% 0W1	1	RL 05
31425851	R SMD 15R 5% 0W1	1	RD 35
31425852	R SMD 100R 5% 0W1	1	RD 36
31425852	R SMD 100R 5% 0W1	1	RF 38
31425856	R SMD 300R 5% 0W1	1	RL 29
31425857	R SMD 330R 5% 0W1	1	RM 20
31425860	R SMD 680R 5% 0W1	1	RF 46
31425860	R SMD 680R 5% 0W1	1	RD 20,21,22,65,66,67
31425872	R SMD 6K2 J 0W10	1	RD 64
31425872	R SMD 6K2 J 0W10	1	RF 45
31425876	R SMD 68R 5% 0W1	2	RD 69
31425885	R SMD 820K 5% 0W1	1	RK 41
31426211	R SMD 2K0 J 0W25	1	RM 17
31426211	R SMD 2K0 J 0W25	1	RT 08
31490003	R SMD 2K00 G 0W10	1	RT 05
31490006	R SMD 240R F 0W10	1	RM 15
31490057	R SMD 10K0 1% 0W1	1	RT 34
31490076	R SMD 61R9 F 0W10	1	RM 16
31230005	R TRIM HOR 1K0 20% 0W1	3	RM 22,23
32125507	C CER SMD 33P 5% 50V	1	CF 06
32125508	C CER SMD 47P 5% 50V	1	CF 15,16
32125508	C CER SMD 47P 5% 50V	1	CL 11
32125510	C CER SMD 15P 5% 50V	1	CF 09,11,08
32125510	C CER SMD 15P 5% 50V	1	CD 43,44,45
32125512	C CER SMD 39P 5% 50V	1	CD 53
32125515	C CER SMD 100P 5% 50V	1	CF 13,14
32125520	C CER SMD 18P 5% 50V	1	CF 10
32125529	C CER SMD 270P 5% 50V	1	CD 37
32135408	C CER SMD 10P D 50V	1	CL 08
32190006	C CER SMD 62P J 50V	1	CL 07
32535710	C CER SMD 47N Z 50V	1	CD 01,02,52
32535718	C CER SMD 22N Z 50V	1	CD 13,17,20,21,22,23,33,54
32535718	C CER SMD 22N Z 50V	1	CL 10,09
32535901	C CER SMD 1N0 10% 50V	1	CF 19
32535918	C CER SMD 10N 10% 50V	1	CF 27

Part Number	Description	PG	Item Number
32536203	C CER SMD 1N0 10% 50V	1	CD 51
32536203	C CER SMD 1N0 10% 50V	1	CL 17
32536207	C CER SMD 3N3 K 50V	1	CA 12
32536210	C CER SMD 4N7 M 50V	1	CD 06
32536210	C CER SMD 4N7 M 50V	1	CK 42
32536213	C CER SMD 10N K 50V	1	CK 40
32536213	C CER SMD 10N K 50V	1	CM 50
32790009	C CER SMD 22N 20% 50V	1	CD 19
32790018	C CER SMD 100N K 25V	1	CT 08,10,01,04
32790018	C CER SMD 100N K 25V	1	CD 08,09,10,25,27,36
32790018	C CER SMD 100N K 25V	1	CF 21,22,23,24,25,26,28
32790018	C CER SMD 100N K 25V	1	CJ 02,03,04
32790018	C CER SMD 100N K 25V	1	CM 02,03,05,07,08,09
33622914	C MKP 1N0 H 100V	2	CT 03,05,09
24030702	C MKT 10n 10% 63V	6	CT 06,11
33127106	C MKT 100N 10% 63V	2	CD 05,12,15
33127106	C MKT 100N 10% 63V	2	CF 29,07
33127108	C MKT 220N 10% 63V	3	CF 18
33127108	C MKT 220N 10% 63V	3	CD 16
33127123	C MKT 470N 10% 63V	3	CF 17
34221242	C ELYT 470U M 10V	3	CD 30
34229675	C ELYT 1U0 M 100V	1	CF 20
34229675	C ELYT 1U0 M 100V	1	CK 41
34540009	C ELYT 22U 20% 16V	2	CD 32,14
34540009	C ELYT 22U 20% 16V	2	CD 24
34540009	C ELYT 22U 20% 16V	2	CO 39
34540020	C ELYT 100U 20% 25V	2	CF 03,
34540020	C ELYT 100U 20% 25V	2	CJ 01
34540020	C ELYT 100U 20% 25V	2	CL 01
34540022	C ELYT 1U0 20% 63V	2	CD 28
34540024	C ELYT 4U7 20% 63V	2	CD ,42,50
34540024	C ELYT 4U7 20% 63V	2	CA 01,
34540024	C ELYT 4U7 20% 63V	2	CM 51
34540025	C ELYT 10U 20% 63V	2	CO 38
34540027	C ELYT 10U 20% 35V	2	CM 06,10,
34540027	C ELYT 10U 20% 35V	2	CT 02,07
34421050	C TANT SMD 1U0 M 16V	3	CM 12,01
34421050	C TANT SMD 1U0 M 16V	3	CD 26,39,55
36120750	TR NPN SMD BF840 40V 25mA	3	VF 06
36145312	TR NPN SMD BC847B 45V 100mA	2	VD 12,13,14,
36145312	TR NPN SMD BC847B 45V 100mA	2	VL 01,06,11,
36145312	TR NPN SMD BC847B 45V 100mA	2	VM 01,02,03,04,05,50,51,
36145312	TR NPN SMD BC847B 45V 100mA	2	VT 01
36145423	TR PNP SMD BC858C 30V 100mA	2	VF 10,03,04,05
36145423	TR PNP SMD BC858C 30V 100mA	2	VL 08
36145423	TR PNP SMD BC858C 30V 100mA	2	VD 15
36147138	TR NPN BC337-25 45V 500mA TO9	2	VM 06
36147138	TR NPN BC337-25 45V 500mA TO9	2	VO 33
36370005	N-FET BUZ70 60V 12A	10	VM 08
36420002	DI 1N4148 75V 200mA DO35	1	VL 02,10
36420002	DI 1N4148 75V 200mA DO35	1	VD 07,08,09,10
36490002	DI SMD LS4148 75V 200mA	1	VF 09,11,
36490002	DI SMD LS4148 75V 200mA	1	VJ 01
36490002	DI SMD LS4148 75V 200mA	1	VT 02
36532216	Z DI SMD BZX84C 3V9 5% SOT23	3	VF 12
36560420	DI SMD BA782 35V	2	VL 05,07
36770013	Z DI ZTK33AB 33V 10% DO35	6	VF 07
37410008	IC VIDEO TDA4665-V3 DIL16	14	VD 03
37440030	IC VIDEO TDA8395-N2 DIL16	22	VD 02
37681815	IC V-REG LM317T ADJ. 1.5A TO220	8	NM 01
37681840	IC V-REG LM2940CT 5V 1A TO220	9	NM 02
37715194	IC LOGIC SMD 4053B SO16	6	VL 09
37810008	IC LOGIC SMD 74HC4538 SO16	7	DT 01,02,03
37850070	IC uP ST6377 NMP03-R01 SDIP42	21	DF 02
41003011	ZENER BZX83C 5V1 5% 400mW	5	VD 18
41562845	IC SOCKET SDIL42	5	ZUDF 02
41710004	CONNECTOR HEADER 12-PIN	4	XA
41710005	CONNECTOR HEADER 10-PIN	4	XH
43004939	IC TDA 8362N3	25	DD 01
45530002	COIL ADJ 250nH	7	ZL 01
45558419	EMIFIL 4N7 M 1.0A	5	ZF 03
45558441	FIL CER SFE 5.5 MB TF21	6	ZL 02
45558442	FIL CER SFE 6.5 MB TF21	5	ZL 03
45558702	FIL CER TPS 5.5 MD TF21	5	ZL 05
45558704	FIL CER TPS 6.5 MD TF21	5	ZL 06
45571641	COIL 12uH J 630mA	4	ZL 04
45572075	COIL 15uH J 330mA	4	ZL 09
45572076	COIL 56uH J 190mA	4	ZF 02
45572601	COIL SMD 15UH 10% 5mA	5	LD 02
45640007	COIL SMD 4.7uH K 250mA	3	LJ 01,03
45710004	QUARTZ 4.433619MHz HC49/U	11	ZD 01
45710009	QUARTZ 8.192 MHz HC49/U	11	ZF 01
46541503	EMI SUPPRES BEAD	3	LD 01
54041342	MODULE SUPPORT	4	
58231008	TUNER SK1190N	37	AJ 01
73190603	ROW CONNECTOR 3-PIN	3	XF
73190612	CONNECTOR ROW 12-PIN	4	XR 01
84830260	HEATSINK ACACIA	6	AH 01

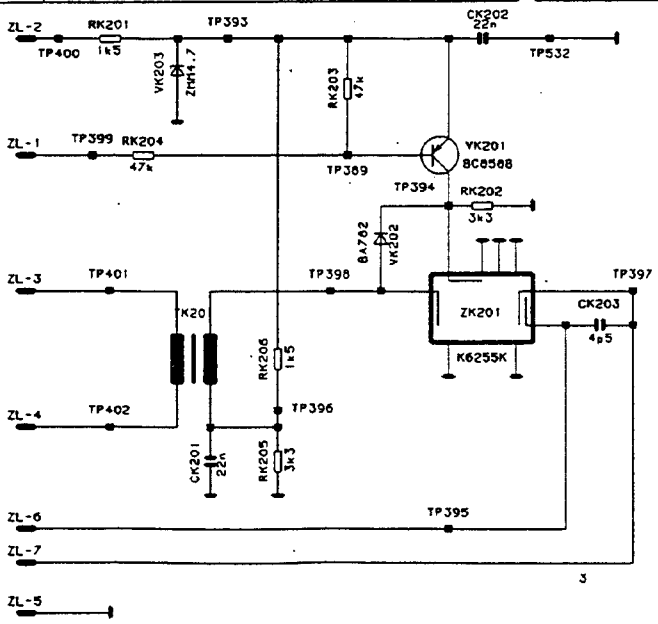
Part Number	Description	PG	Item Number
84830260	HEATSINK ACACIA	6	AO 01
96010177	FLAT CABLE 6-PIN L=140	6	XMO1-XMO2
96010178	FLAT CABLE 4-PIN L=240	6	XMO3-XMO4
LL2096	IF BOARD 58252096 ACACIA	23	ZL 07
TX4095	VT DECODER 58544095 ACACIA	32	
LL2096	**IF BOARD 58252096 ACACIA**		
31425826	R SMD 1K5 5% 0W1	1	RK 201,206
31425829	R SMD 3K3 5% 0W1	1	RK 202,205
31425836	R SMD 47K 5% 0W1	1	RK 203,204
32125505	C CER SMD 4P5 C 50V	1	CK 203
32525705	C CER SMD 22N M 25V	1	CK 201,202
36145412	TR PNP SMD BC857B 45V 100mA	2	VK 201
36531627	Z DI SMD ZMM4.7 4V7 5% SOD80	2	VK 203
36560420	DI SMD BA782 35V	2	VK 202
45231125	TRAFO SMD MS35B	11	TK 201
45740018	SAW FILTER OFW K6255K B/G D/K	19	ZK 201
51000078	F-CONN Lumberg 2,5MSW 7-PIN	6	ZL

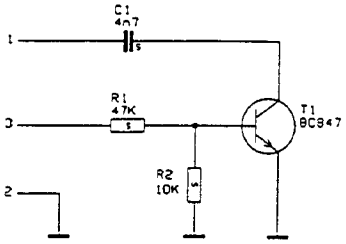
Wired Bridges

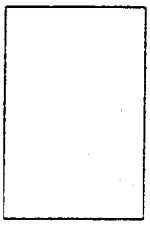
W54	824 (1)	824 (1)	W100	U2	U2	W153	Ident Ident
W53	824 (1)	824 (1)					
W52	GND	GND					
W51	GND	GND	W97	GND	GND		
W50	U4	U4					
W48	GND	GND					
W47	824 (0)	824 (0)	W95	GND	GND		
W45	NX9110	NX9110	W94	NX5623	NX5623		
W43	824 (0)	824 (0)	W93	NX5610	NX5610		
W42	NX14456	NX14456	W92	U2	U2		
W41	U11	U11	W91	U4	U4		
W38	U3	U3	W90	NX2023	NX2023		
			W89	NX10262	NX10262	W145	GND GND
W34	NX6887	NX6887	W88	NX1874	NX1874	W144	GND GND
W33	GND	GND	W87	NX5609	NX5609	W139	no net no net
						W138	GND GND
W29	NX2196	NX2196	W85	NX45556	NX45556	W137	NX19883 NX19883
			W84	NX45556	NX45556	W132	NX9110 NX9110
W26	NX10662	NX10662	W83	NX2196	NX2196		
W25	U_TUN	U_TUN					
W24	U4	U4	W82	NX44845	NX44845	W129	NX9110 NX9110
W23	U2	U2	W81	NX5638	NX5638		
W22	U5	U5	W80	NX5373	NX5373	W127	GND GND
W20	U5	U5	W79	NX46211	NX46211		
W18	NX7385	NX7385	W78	NX44256	NX44256		
W17	U5	U5	W76	GND	GND		
W16	NX9694	NX9694	W74	RESET	RESET		
W15	NX9694	NX9694	W73	NX4115	NX4115		
W14	U2	U2	W72	DF02-37	DF02-37		
			W70	NX9163	NX9163		
			W69	U4	U4		
W11	GND	GND	W67	U4	U4		
W10	U5	U5	W66	NX41873	NX41873	W123	GND GND
W9	GND	GND	W64	RESET	RESET	W122	GND GND
W8	NX9888	NX9888	W63	NX14456	NX14456	W121	GND GND
W7	GND	GND	W62	824 (11)	824 (11)		
			W61	824 (11)	824 (11)		
W5	GND	GND	W60	H_FLY	H_FLY	W109	GND GND
W4	NX4865	NX4865	W59	GND	GND		
W3	GND	GND	WA06	NX41862	NX41862		
W2	SDA	SDA	W58	824 (11)	824 (11)		
W1	SCL	SCL	W56	NX5623	NX5623		

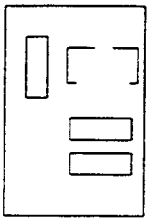
Chip Bridges

W142	NX19883	NX19883	W155	U4	U4
			W86	NX45556	NX45556
W136	GND	GND	W77	NX21750	NX21750
W135	NX5486	NX5486	W75	824 (11)	824 (11)
W134	GND	GND	W65	DF02-37	DF02-37
			W55	824 (8)	824 (8)
W103	NX2491	NX2491	W44	824 (0)	824 (0)
			W40	U3	U3
			W39	U3	U3
			W37	U4	U4
			W36	U4	U4
			W32	NX6887	NX6887
			W30	GND	GND
			W27	U_TUN	U_TUN
			W21	U5	U5
			W19	GND	GND
			W12	NX2491	NX2491
			W6	NX46522	NX46522

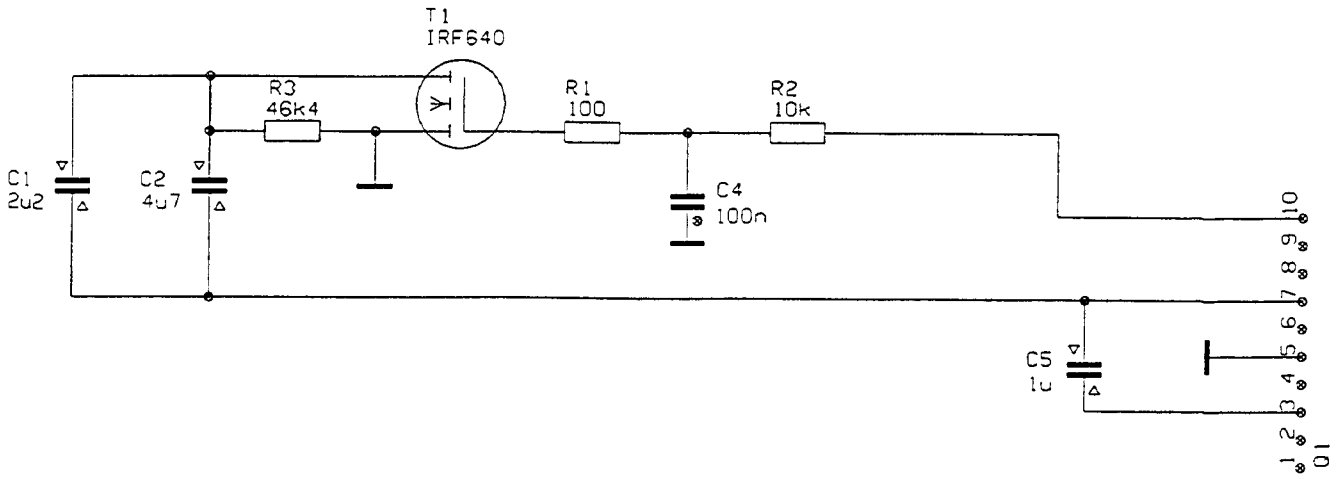








Part Number	Description	PG		Item Number
SMZ039	**SWITCHING MODULE**			
AC4497	R SMD 0W1 10K 5%	1	R	002
AC4513	R SMD 0W1 47K 5%	1	R	001
CC3280	C CER SMD 4N7 10% 50V	1	C	001
JM4105	TR BC847B N 45V 0.1A SOT23	4	T	001



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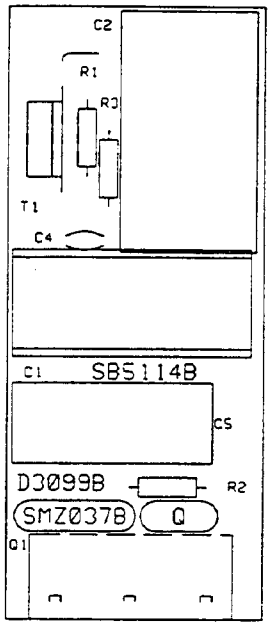
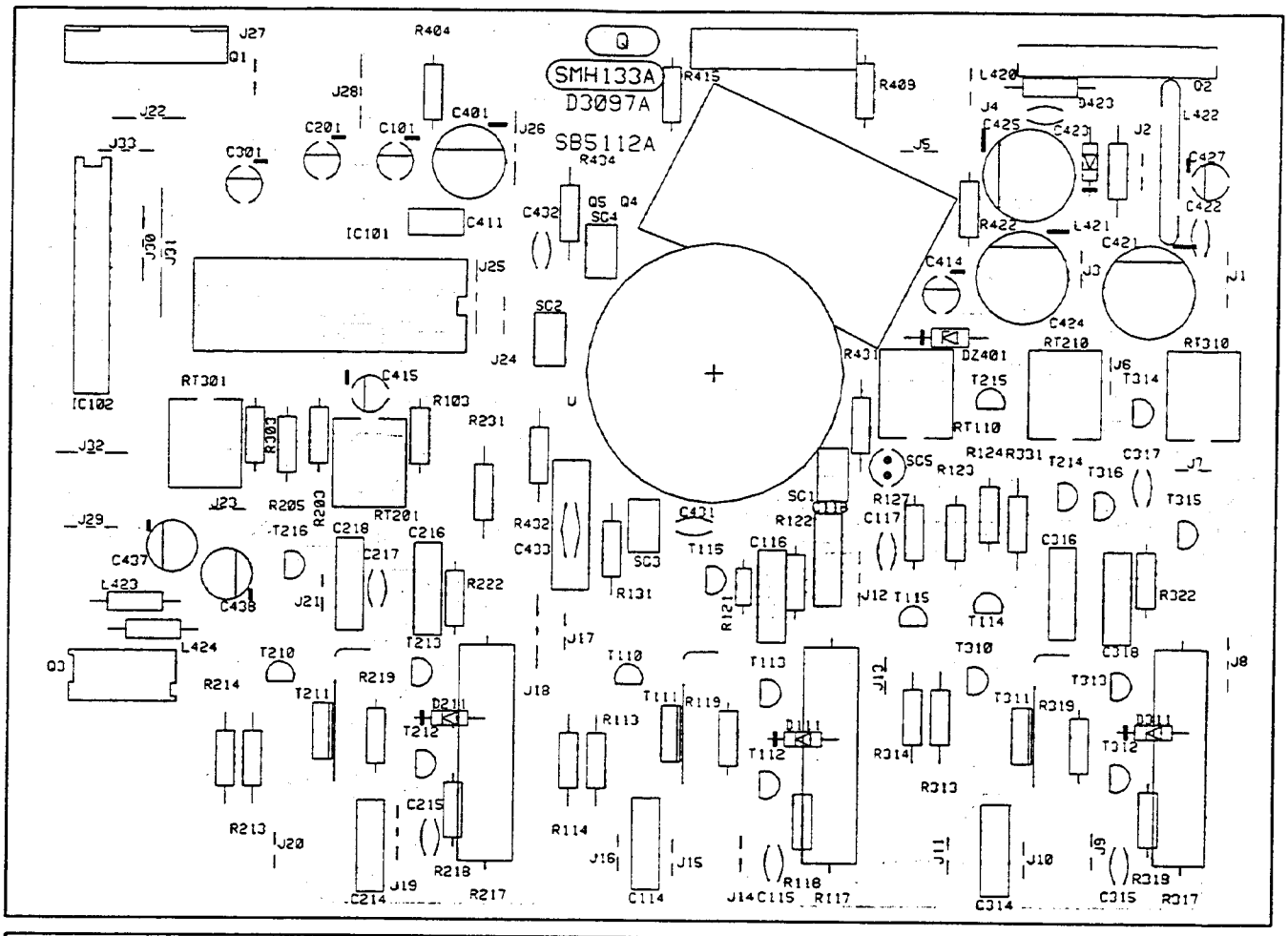
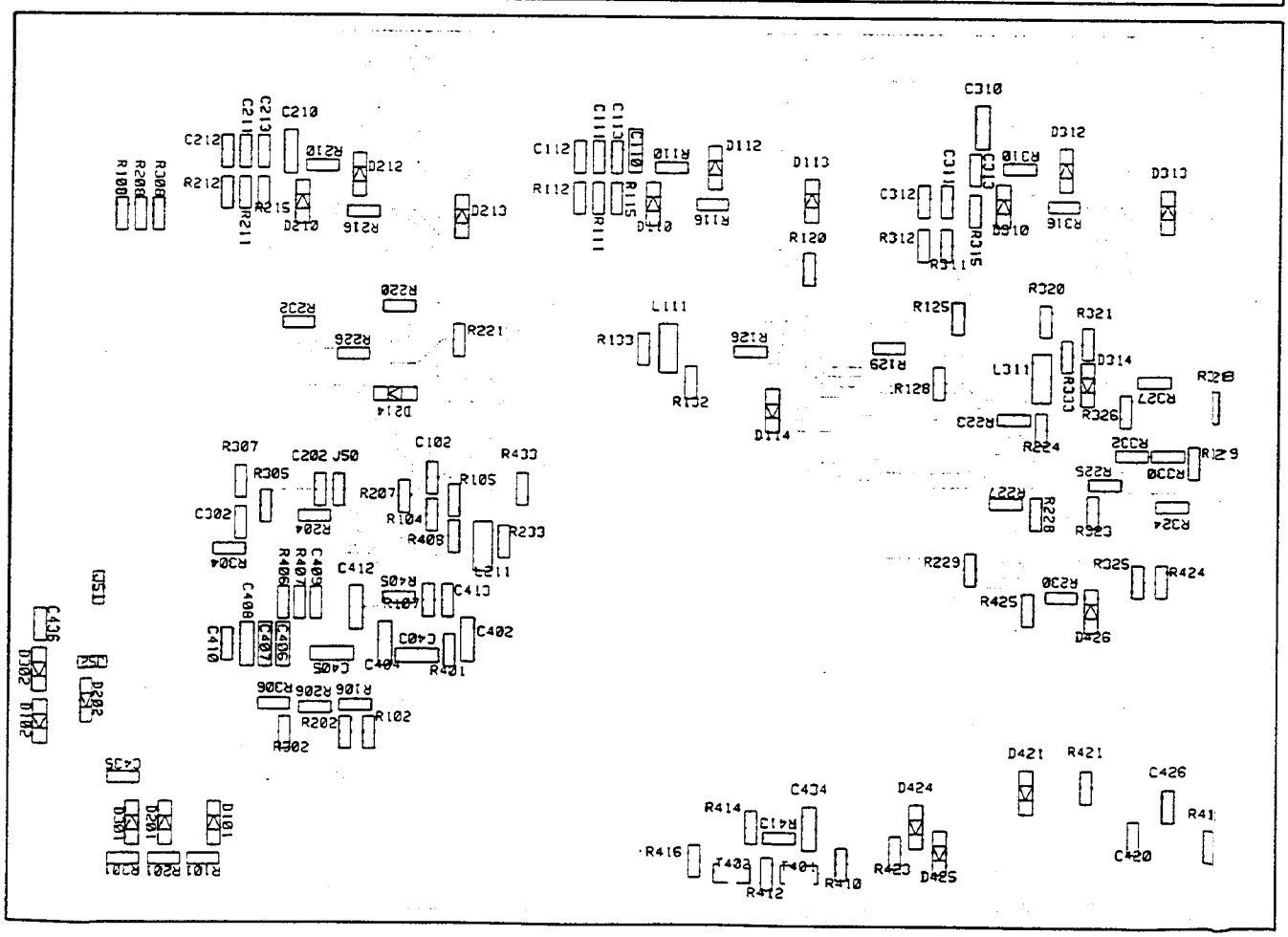


Part Number	Description	PG		Item Number
SMZ037	**S-COMPENSATION MODULE**			
AA0649	R CF 0W25 100R J	1	R	001
AA0697	R CF 0W25 10K J	1	R	002
AG3565	R MF 0W5 46K4 F	1	R	003
CC0853	C CER 100N Z 25V	1	C	004
CE3203	C IMP 1U0 J 250V	7	C	005
CE3292	C IMP 2U2 J 250V	12	C	001
CE4050	COUPCAP 4U7 K 250V	10	C	002
JS0059	FET IRLI540G N 100V 17A 0,077R	11	T	001
QK1478	MODULE CONN 1X10	7	Q	001
UC1140	HEATSINK	2	T	001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SB5112A